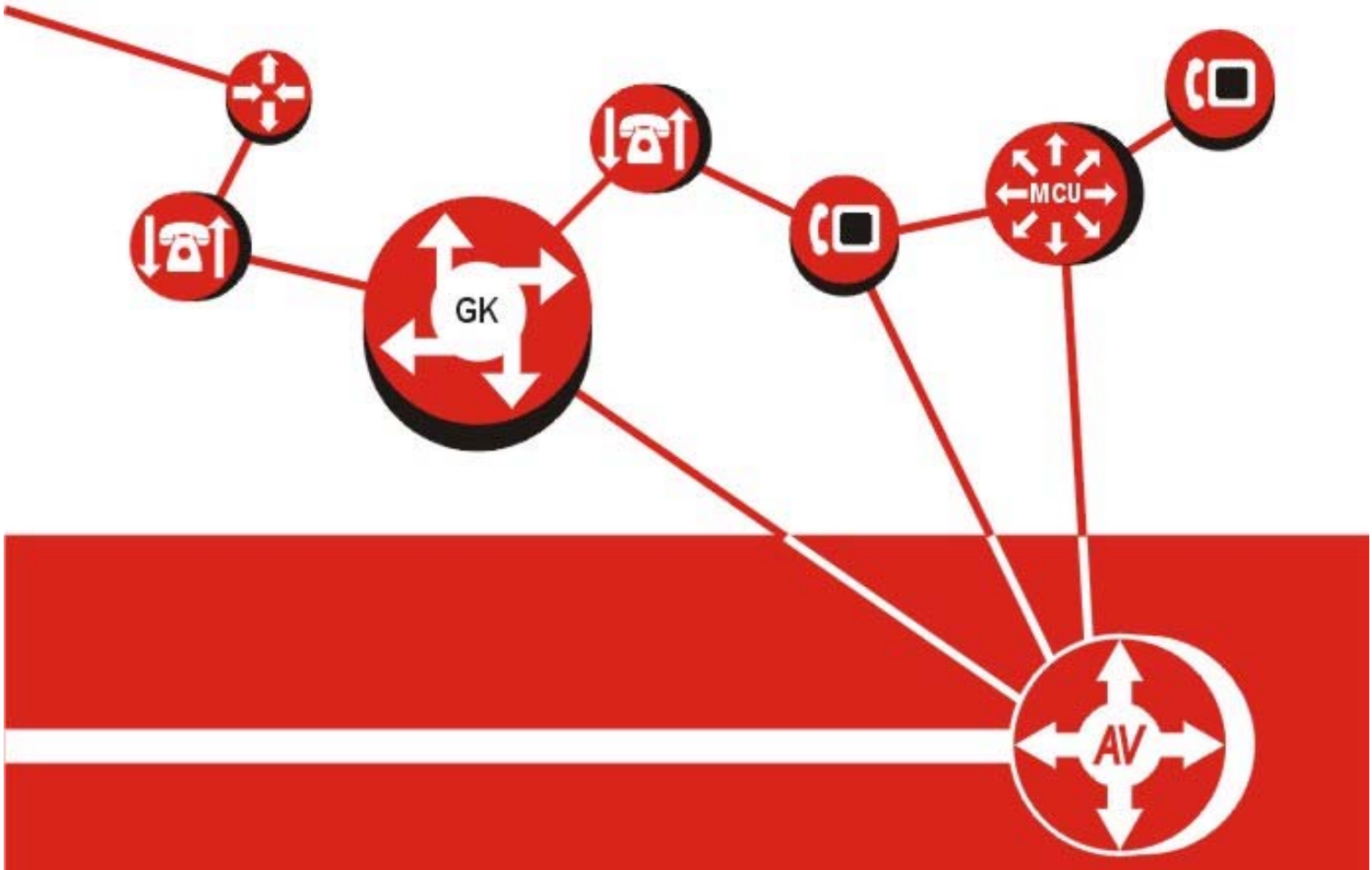
avois
Advanced VoIP Solution

# AV-3000 Series（FXO）
# VoIP Gateway User Manual

*Version 2.0*



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This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against radio interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interface.

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This equipment complies with the requirements relating to electromagnetic compatibility, EN55022 class A for ITE and EN 50082-1. This meets the essential protection requirements of the European Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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# Chapter 1 Introduction

## 1. Preface

avois AV-3000 Series H.323 Voice over IP Gateway equipped with voice compression hardware is capable of placing voice calls to the PBXs or central office switches attached to remote voice gateways that are similarly equipped. avois AV-3000 uses standardized H.323 signaling and audio transport compatibility features. These systems are capable of communicating with other similarly equipped devices either directly, or through a Gatekeeper system.

Voice calls utilize the standard G.7xx speech encoding/decoding algorithms that travel within IP packets. IP networks such as the Internet or, for better quality, special managed IP networks, are used to carry this type of traffic. avois analog gateway assumes that this type of network is attached to the interface defined as the default IP route. This assumption may be changed by configuration.

avois AV-3000 series provides FXO (Foreign eXchange Office) interface that allows the attachment to PBX's line-side or central office. The DSP behind the FXO interface offers G.723.1, G.711, and G.729 voice compression. The FXO interface contains four RJ-11 connectors, and each port contains an independent voice compression channel in the DSP.

The initial implementation of the H.323 system will not use the Gatekeeper function. Instead, all outbound calls must have an associated DirectDial number configured whose entry contains the remote IP address. All signaling and data transport operations will occur between the two gateway entities.

Since the worldwide market for this equipment involves compatibility with country-specific telephony standards, certain items of configuration are provided for the FXO module. Generally, these elements of configuration are system-wide. In order to ease the installation and management of these line parameters, country codes are provided for administrator use. If desired, these parameters may be manually configured in CLI, Command Line Interface.



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## 2 Safety Information

- Follow all warning and instructions marked on the product.
- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Opening in the side and the top are provided for ventilation. To protect it from overheating, these openings must not be blocked or covered. This product should never place near or over a radiator or heat register, or in a built-in installation.
- Operation environment：AC 100V~250V
- Never push any object or any kind into this product through cabinet slots as they may touch dangerous voltage points or short cut parts as that could result a fire or electric shock.
- Never spill any kind of liquid on the product.
- Never disassemble this product.
- Use only Unshielded Twisted Pair (UTP) Category 5 Ethernet cable for the RJ-45 port.
- Use RS-232 cable Female 9 pin to Female 9 pin for the console port.



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# *Chapter 2 Product Package*

## *1. Package Contents*

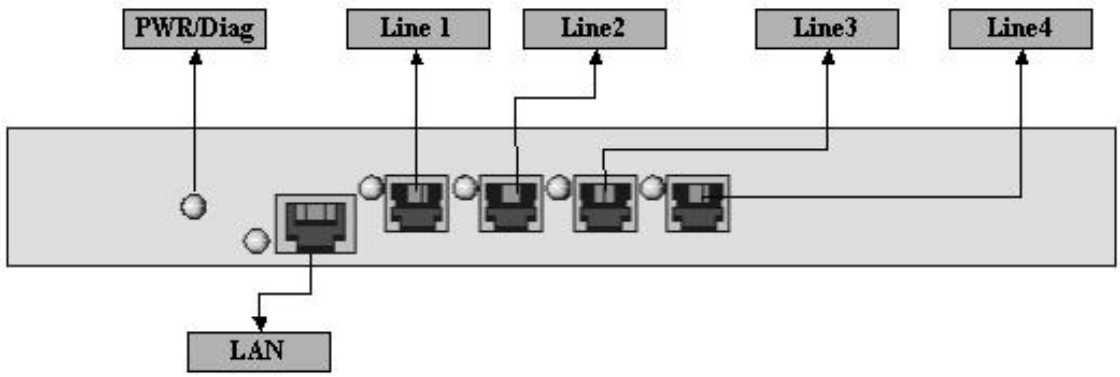
1. Please make sure the following contents are in the package.

- avois AV-3000 Series(FXO) VoIP Gateway.
- One Set of AC power cable.
- User's Installation Guide
- Limited Warranty Card
- One set of RS-232 cable(Null Modem)

2. Make sure the Limited Warranty Card has an Authorize dealer's officer Stamp.(For better ensure our service, please mail in your warranty card within 30 days of your purchases)

3. Please read the safety information carefully before you install AV-3000 Series (FXO) VoIP Gateway.

**The Front Panel of AV 3000 Series(FXO) VoIP Gateway(Take 4 ports for example)**



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| LED Type | Number | State |
|---|---|---|
| Power/Diag | 1 | The orange power LED indicates that VoIP Gateway is in preparation. The solid green power LED indicated VoIP Gateway has been powered on. Else, the LED is off. |
| Ethernet | 1 | Per unit network status LED displays the Ethernet link activity. Solid GREEN indicated the Ethernet link exists, and flashing GREEN shows data activity (transmit & receive) over the link. |
| Voice Port | 2/4/8 | Per voice channel displays the status of the connectivity of each analog voice port. Solid GREEN when the call is connected through. |

**Back pannel View of AV-3000 Series (FXO)VoIP Gateway**

- RJ-11 Port: Four RJ-11 jacks ( for connection to PBX/CO).
- Console Port: One RS-232 cable for connection to a computer serial port .
- 10/ LAN Port: One RJ-45 jack for connection to 10/ Ethernet LAN via RJ-45 cable.


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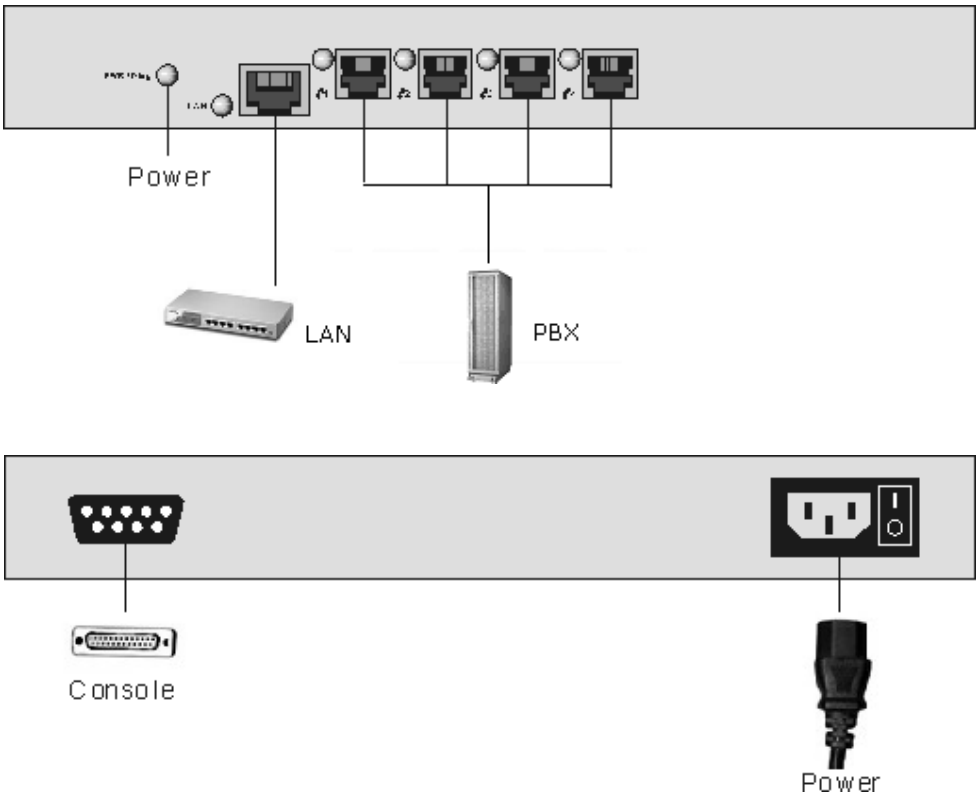
## 2. Hardware Connectivity

1. Unpack all contents of the ***avois*** VoIP gateway from the package.
2. Put Power cable into the socket of the right side in the back.
3. Connect the PSTN line side/PBX line side to RJ-11 POTS ports.
4. Connect the LAN / WAN RJ-45 to the LAN port in the front.
5. Connect the RS-232 cable to the console port of the left side in the back and RS-232 port of the computer.

Hardware Connectivity



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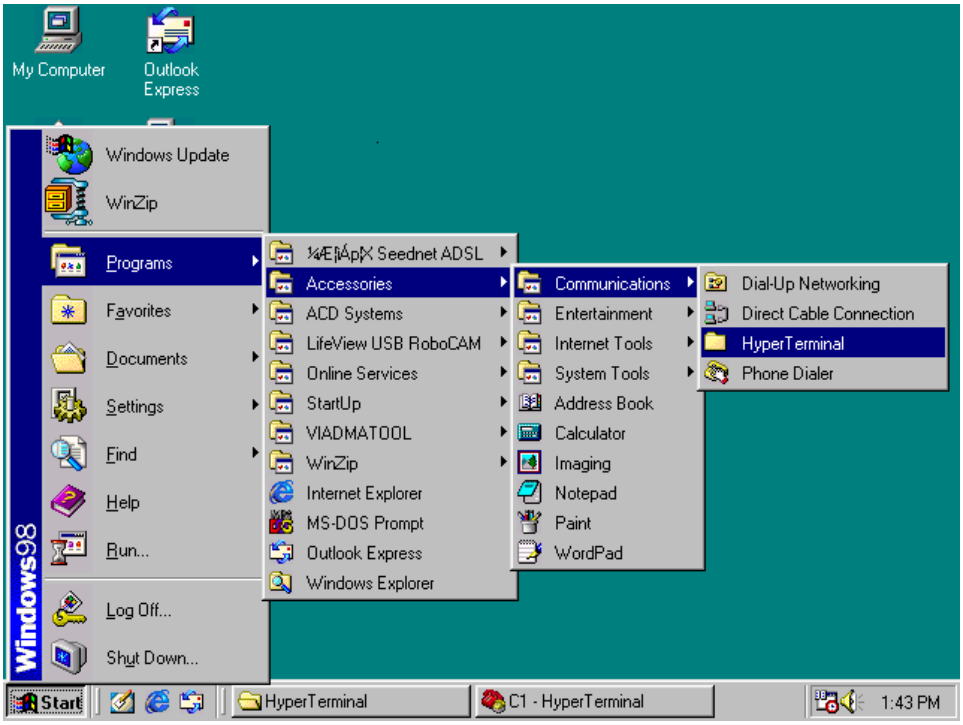
# 3. Console Connection Setup

For the first time configuration, we recommend you can set up AV-3000 series(FXO) VoIP Gateway from the computer's console port. When the system completes the new IP setup, the all setup /modification configurations are easier to complete via Web Browser afterwards.

## 3.1 Console Connection Setup

Connect the RS-232 cable to the console port in the back and the RS-232 port of the computer.

Enter the Com Port setting『START』—『Programs』—『Accessories』—『Communication』—『Hyper Terminal』



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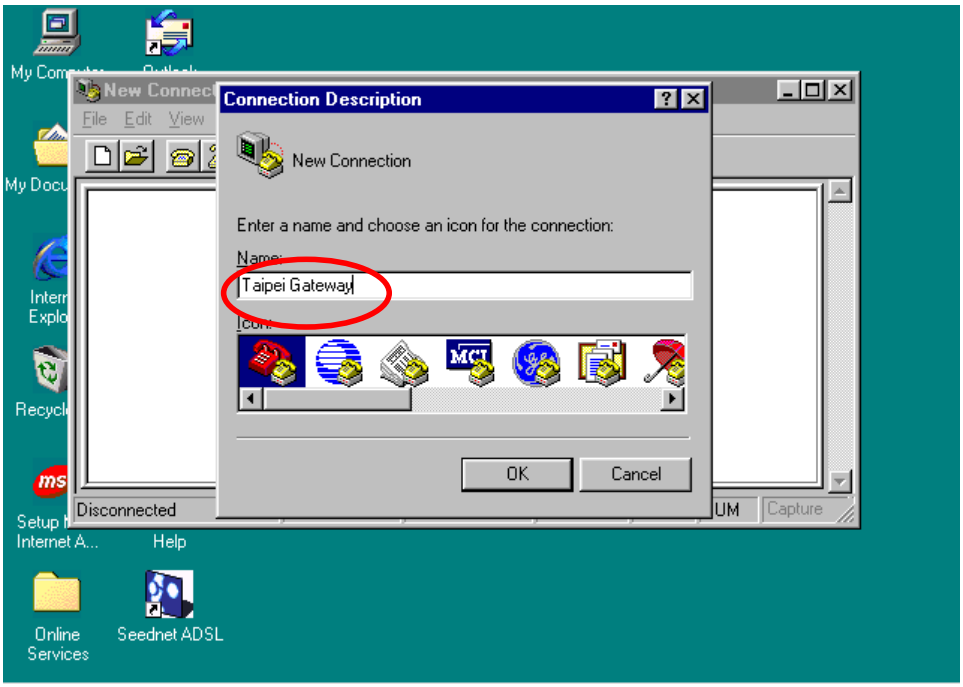
## *3.2 Connection Description*

**Step1**：Enter a name(For example, Taipei Gateway) and choose an icon for the connection.



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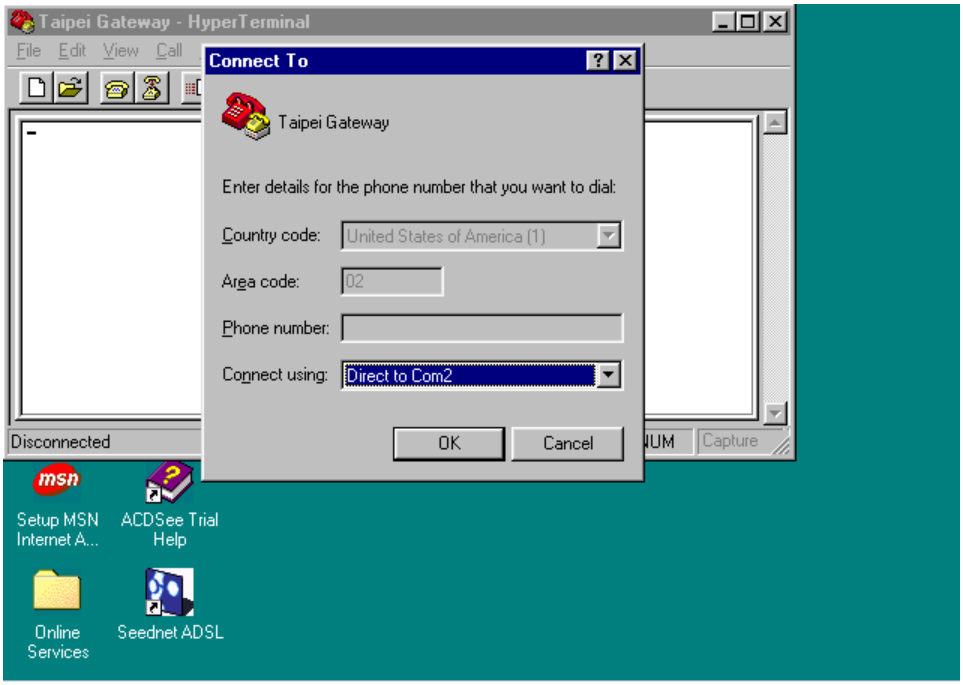
**Step2**：Select the connecting Console port(Please make sure you have connected to the right COM port)



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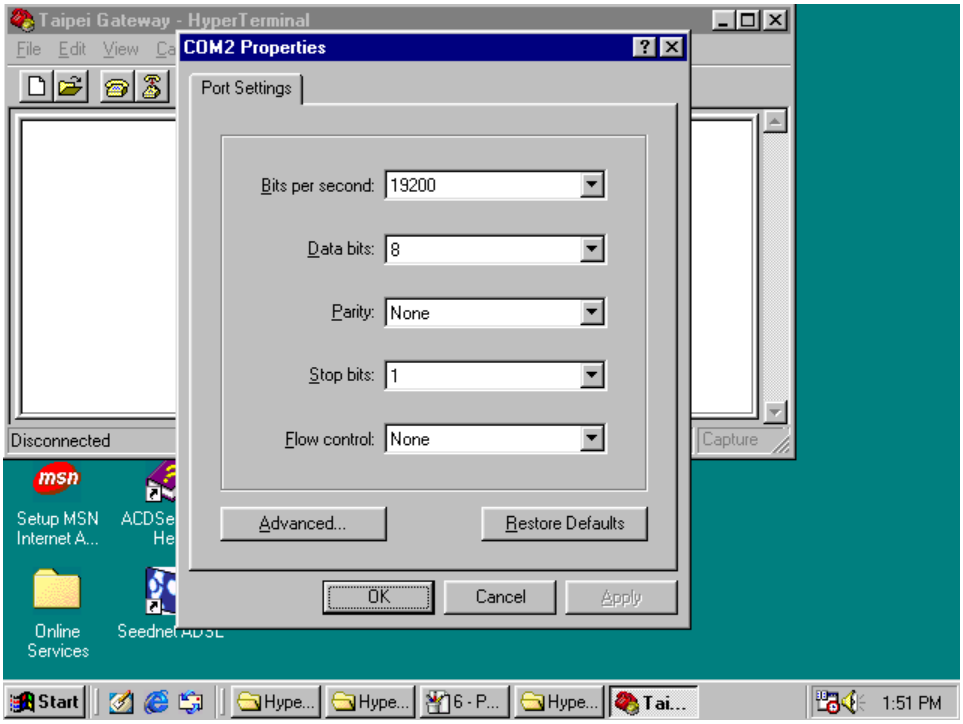
**Step3**：Make sure the COM port Configure properties Set up as follows for best performance.

Bits per second：19200
Data bits ：8
Parity ：None
Stop bits ：1
Flow control: ：None



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**Step4**：Choose「OK」bottom and then press 「Enter」bottom, you have entered the connection status.

**Step5**：Congratulation！You have completed the preparation before the Console port connection.**Step6**：

When Gateway is in the preparation process, the preparation time will be around 30 seconds and the yellow signal will twinkle. After successful powering on, the Power / Diag signal will become green light from yellow light and the signal of the POTS port will light from the first to the forth. You also can see『Ready』on the Command Line Interface. Please press『Enter』to start the configuration.



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## *3.3 AV-3000 Series(FXO) Gateway Console Configuration Process*

You can choose two types of configuration to configure the settings.

i. You can continue using the Command Line Interface(Hyper Terminal).

ii. You can use the Web-Based configuration



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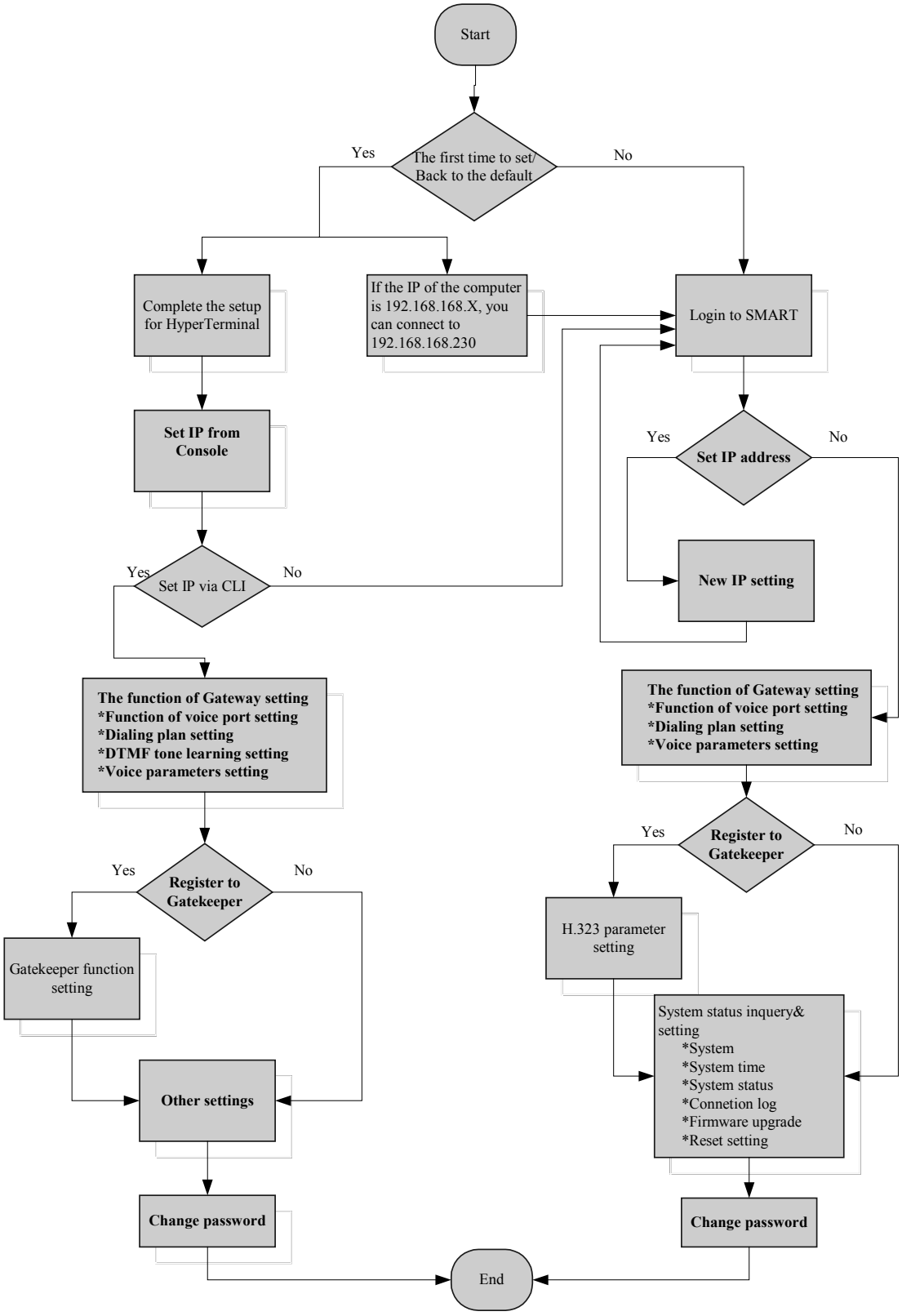




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# *Chapter 3 Configuration(HyperTermimal)*

The all configurations through CLI(Command Line Interface)or Browser are for AV-3000 Series VoIP Gateway with 4 ports as example.

## *1. Login into the System(HyperTerminal)*

When you complete the preparation of the Console port connection, you can login into the system through HyperTerminal. (Default password: 『password』)

```
AVOIS VoIP Gateway Bootloader Version: 1.04
Loading Firmware ......
 Ready
AVOIS AV-3004 VoIP Gateway Manager Console Version: 2.04
Please enter your password:  ********
Welcome !
AV-3004>
```

- The login default password is ”password”
- After completing the configuration, you can use the command【save config】 to save the alteration for using the new configurations after rebooting. If you don’t use the command to save it, the system will save it automatically after 30 minutes. However, if the system reboots in 30 minutes, the configurations will be the old ones.



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## 2. DTMF Tone Progress Learning

FXO provides the functions for learning the fastbusy tone, ringback tone, busy tone and dial tone learning. For normal user, we recommend you to set the fastbusy tone and dial tone learning. For ISP/ITSP user, we recommend you to learn all the tones.

### 2.1 Fastbusy Tone Learning Function Setting

AV-3000 series has the function of learning the fastbusy tone of PBX automatically. The command is as below：

**✦【set tone fastbusy learning】**

**Example：**

```
AV-3004> set tone fastbusy learning
   Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
   Step2: Use a phone set to dial the port A.1 of the voice gateway.
   Step3: Wait until the port A.1 LED turn on.
   Step4: Hang up the phone, then press <enter> to start learning.


.................
 Fast busy tone pattern:
   First frequency    : 480 Hz
   Second frequency   : 620 Hz
   First cadence on   : 250 ms
   First cadence off  : 250 ms
   Second cadence on  : 0 ms
   Second cadence off : 0 ms
```

If you want to alter the setting of fastbusy tone, you can use the following command to change the setting.

**✦【set tone fastbusy】：alter the fastbusy tone settings**

```
AV-3004> set tone fastbusy
 Fast busy tone pattern:
 First frequency        (480 Hz): 350
 Second frequency       (620 Hz): 440
 First cadence on       (250 ms): 300
```



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```
First cadence off      (250 ms): 300
Second cadence on      (0 ms): 0
Second cadence off     (0 ms): 0

Fast busy tone pattern:
   First frequency     : 350 Hz
   Second frequency    : 440 Hz
   First cadence on    : 300 ms
   First cadence off   : 300 ms
   Second cadence on   : 0 ms
   Second cadence off  : 0 ms
AV-3004>
```

You also can use the 『show tone fastbusy』to show the fastbusy setting.

**✦【show tone fastbusy】**

```
AV-3004> show tone fastbusy

Fast busy tone pattern:
   First frequency     : 350 Hz
   Second frequency    : 440 Hz
   First cadence on    : 300 ms
   First cadence off   : 300 ms
   Second cadence on   : 0 ms
   Second cadence off  : 0 ms
AV-3004>
```

## *2.2 Ringback Tone Learning Function Setting*

AV-3000 series has the function to learn the ringback tone of PBX/CO automatically. You can choose to learn the ringback tone of PBX or CO. If the Gateway is setup in office, you can choose to learn the fastbusy tone of PBX and CO. If it is setup at home, you can only let the Gateway to learn the ringback tone of CO. The command is as below. ***Please note don't pick up the phone which is ringing for avoiding the ringback tone learning failed.***

**✦【set tone ringback learning】**

**Example：**



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```
AV-3004> set tone ringback learning
   Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
   Step2: Let another phone also connects to your PBX/CO.
   Step3: Iuput the phone number, then press <enter> to start learning.
   Please input the phone number: 1715
.....................................
 First ringback tone pattern:
   First frequency    : 440 Hz
   Second frequency   : 480 Hz
   First cadence on   : 2050 ms
   First cadence off  : 4000 ms
   Second cadence on  : 0 ms
   Second cadence off : 0 ms

If the FXO gateway is attatched to PBX, learning the CO's tone is suggested.
 Do you want to learn the second tone? (Yes/No): yes
   Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
   Step2: Let another phone also connects to your PBX/CO.
   Step3: Iuput the phone number, then press <enter> to start learning.
   Please input the phone number: 923644342
.....................................
 Second ringback tone pattern:
   First frequency    : 440 Hz
   Second frequency   : 480 Hz
   First cadence on   : 1000 ms
   First cadence off  : 2000 ms
   Second cadence on  : 0 ms
   Second cadence off : 0 ms
AV-3004>
```

**✦【set tone ringback】：Alter the settings of ringback tone**

**Example：**

```
AV-3004> set tone ringback

 First ringback tone pattern:
```



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```
First frequency        (440 Hz): 480
Second frequency       (480 Hz): 620
First cadence on       (2050 ms): 3000
First cadence off      (4000 ms): 3000
Second cadence on      (0 ms):
Second cadence off     (0 ms):

First ringback tone pattern:
   First frequency    : 480 Hz
   Second frequency   : 620 Hz
   First cadence on   : 3000 ms
   First cadence off  : 3000 ms
   Second cadence on  : 0 ms
   Second cadence off : 0 ms

If the FXO gateway is attatched to PBX, setting the CO's tone is suggestted.
Do you want to set the second tone? (Yes/No): yes
Second ringback tone pattern:
First frequency        (440 Hz): 480
Second frequency       (480 Hz): 620
First cadence on       (1000 ms): 1000
First cadence off      (2000 ms): 2000
Second cadence on      (0 ms):
Second cadence off     (0 ms):

Second ringback tone pattern:
   First frequency    : 480 Hz
   Second frequency   : 620 Hz
   First cadence on   : 1000 ms
   First cadence off  : 2000 ms
   Second cadence on  : 0 ms
   Second cadence off : 0 ms
AV-3004>
```

**✦【show tone ringback】：Show the settings of ringback tone**

**Example：**



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```
AV-3004> show tone ringback

 First ringback tone pattern:
    First frequency     : 480 Hz
    Second frequency    : 620 Hz
    First cadence on    : 3000 ms
    First cadence off   : 3000 ms
    Second cadence on   : 0 ms
    Second cadence off  : 0 ms

 Second ringback tone pattern:
    First frequency     : 480 Hz
    Second frequency    : 620 Hz
    First cadence on    : 1000 ms
    First cadence off   : 2000 ms
    Second cadence on   : 0 ms
    Second cadence off  : 0 ms
AV-3004>
```

## *2.3 Busy Tone Learning Function Setting*

AV-3000 series has the function to learn the busy tone of PBX/CO automatically. You can choose to learn the busy tone of PBX or CO. If the Gateway is setup in office, you can choose to learn the busy tone of PBX and CO. If it is setup at home, you can only let the Gateway to learn the busy tone of CO. The command is as below.

### ✦【set tone busy learning】

**Example**：(Example1:The busy tone for office internal call)

```
AV-3004> set tone busy learning
    Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
    Step2: Let another phone also connects to your PBX/CO.
    Step3: Let the phone goes off-hook.
    Step4: Input the phone number, then press <enter> to start learning.
    Please input the phone number: 1761
.....................
 First busy tone pattern:
```



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```
   First frequency     : 480 Hz
   Second frequency    : 620 Hz
   First cadence on    : 250 ms
   First cadence off   : 250 ms
   Second cadence on   : 0 ms
   Second cadence off  : 0 ms
```

**Example：**(Example 2: The busy tone for outgoing call)

```
---continue---
If the FXO gateway is attatched to PBX, learning the CO's tone is suggested.
 Do you want to learn the second tone? (Yes/No): yes
   Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
   Step2: Let another phone also connects to your PBX/CO.
   Step3: Let the phone goes off-hook.
   Step4: Input the phone number, then press <enter> to start learning.
   Please input the phone number: 923644342
.....................
First busy tone pattern:
   First frequency     : 480 Hz
   Second frequency    : 620 Hz
   First cadence on    : 250 ms
   First cadence off   : 250 ms
   Second cadence on   : 0 ms
   Second cadence off  : 0 ms
AV-3004>
```

You can use the following commands to alter the setting of busy tone.

✦【**set tone busy**】

✦【**show tone busy** 】

## *2.4 Dial Tone Learning Function Setting*

AV-3000 series has the function to learn the dial tone of PBX/CO automatically. You can choose to learn the busy tone of PBX or CO.



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✦【set tone dial learning】

**Example:**

```
AV-3004> set tone dial learning
   Step1: Connect the port A.1 of the voice gateway to your PBX/CO.
   Step2: Press <enter> to start learning.
.............................
 Dial tone pattern:
   First frequency    : 350 Hz
   Second frequency   : 440 Hz
  AV-3004>
```

✦【set tone dial】

**Example:**

```
AV-3004> set tone dial

 Dial tone pattern:
 First frequency        (350 Hz): 400
 Second frequency       (440 Hz): 0
 First cadence on       (0 ms): 0
 First cadence off      (0 ms): 0
 Second cadence on      (0 ms): 0
 Second cadence off     (0 ms): 0

 Dial tone pattern:
   First frequency    : 400 Hz
   Second frequency   : 0 Hz
AV-3004>
```

✦【show tone dial】

**Example:**

```
AV-3004> show tone dial

 Dial tone pattern:
   First frequency    : 400 Hz
```



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```
    Second frequency    : 0 Hz
AV-3004>
```

## 3. POTS Ports Setting

Setup parameters of all POTS ports. This will assign a number and turn on that port. Volume level and type of codec can be configured in this function. Meantime, AV-3000 Series(FXO) Gateway provides the『Hot Line』function. You can set each voice port with a designated hot line number. When the Gateway receives a call from PSTN, it will dial the hot line number automatically. For example, you set voice port a.1 with a hot line number,『26960008』. When a dialer makes a call from PSTN to port a.1 of the Gateway, Gateway will dial『26960008』automatically for the dialer.

Hot line number should be the direct dial number or the number of one routeset which is defined by the Gatekeeper.

## 3.1 General Setting

### ✦【set voice port a.x】

### Example：

```
AV-3004> set voice port a.1
 Enter port number (1111, number<up to 15 digits>): 0001
 Enter input volume level(32, [0~63]): 32
 Enter output volume level(32, [0~63]: 32
 Enter hot line mode(On, On/Off): on
 Enter hot line destination number (None, no/<up to 15 digit number>): 26960
008
 Voice Port:  (A.1)
        Port number             : 001
        Input Volume Level      : 32
        Output Volume Level     : 32
        Hot Line Mode           : On
        Hot Line Number         : 26960008
        VAD/CNG Mode            : On
        Echo Cancellation       : On
        Adaptive Jitter Buffer  : On
```



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```
        Admin Status            : On Hook

AV-3004> set voice port a.2
 Enter port number (0002, number<up to 15 digits>): 002
 Enter input volume level(32, [0~63]): 32
 Enter output volume level(32, [0~63]: 32
 Enter hot line mode(Off, On/Off): on
 Enter hot line destination number (None, no/<up to 15 digit number>): 26961761

 Voice Port:  (A.2)
        Port number              : 002
        Input Volume Level       : 32
        Output Volume Level      : 32
        Hot Line Mode            : On
        Hot Line Number          : 26961761
        VAD/CNG Mode             : On
        Echo Cancellation        : On
        Adaptive Jitter Buffer   : On
        Admin Status             : On Hook
```

## Description：

- Enter port number (0000，number<up to 15 digits>：The configuration makes the administrator easier to know what port connects to what telephone number/extension number. There is no effective towards making a call .
- input volume level & output volume level(32， [0~63]：You can adjust the level based on the property of your telephone. We recommend the volume level to set on 32。
- hot line destination number: Hot line number. You can select to enable/disable the hot line function.

Please note when the remote Gateway is off line or works abnormal, the hot line function may not be workable. So if this situation occurs, please check the remote Gateway first.



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If you have set the POTS port settings, you can choose to enable/disable the related functions.

✦【enable voice port a.x】：Enable the voice port function.

✦【disable voice port a.x】：Disable the voice port function.

✦【show voice port】：List the voice port settings.

## *3.2 Advanced Setting*

You can set the VAD/CNG, Echo cancellation and Jitter buffer of each port. Please use Ctrl+E button to enter the advanced mode..

✦【set voice port a.x】

**Example：**

```
AV-3004>>> set voice port a.1
 Enter port number (0001, number<up to 15 digits>):
 Enter input volume level(32, [0~63]):
 Enter output volume level(32, [0~63]:
 Enter hot line mode(Off, On/Off): on
 Enter hot line destination number (None, no/<up to 15 digit number>): 26960008
 Enter VAD/CNG mode (On, On/Off):on
 Enter echo cancellation mode (On, On/Off):on
 Enter adaptive jitter buffer mode (On, On/Off):on

 Voice Port:  (A.1)
        Port number          : 0001
        Input Volume Level    : 32
        Output Volume Level   : 32
        Hot Line Mode         : On
        Hot Line Number       : 26960008
        VAD/CNG Mode          : On
        Echo Cancellation     : On
        Adaptive Jitter Buffer : On
        Admin Status          : On Hook
```



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```
AV-3004>>>
```

**Description：**

- VAD/CNG mode: Voice Activity Detection and Comfort Noise Generation. To enable the function can make the communication quality becomes better.
- Echo Cancellation: You can enable this function to cancel the echo.
- Adaptive Jitter Buffer: When the transmission over the network is not stable, the packet may not be transmitted in a fixed period or in order. To enable the function can make the packets to be saved into the specific amounts and then transmit them in good order. This will make the communication quality better.

## *4. IP Address Setting*

FXO supports multiple IP configuration, like manual, DHCP, and PPPoE. The Gateway's default IP is 192.168.168.230 and netmask is 255.255.255.0. You can have a computer with the same IP(192.168.168.X) and make it to connect to the Gateway. Therefore, you can set the configuration via browser instead of CLI(Command Line Interface).

### *4.1 IP Setting through Manually Setting*

When you apply an ADSL service from ISP company, the Gateway uses the fixed IP, or the Gateway is structured on one company's network and MIS administrator offers a fixed IP to the Gateway. For above situations, we recommend you to set the IP address manually.

**✦【add profile ewan】**

**Example：**

```
AV-3004> add profile ewan
 The system is currently in Express Mode, press Ctrl-E to switch to Advanced
 Mode.
 Edit existing conection profile "ewan" ...
 Interface type: Ewan
 Enter encapsulation type (Ethernet, Ethernet/PPPoE): ethernet
 Profile ewan is configured successfully. Configuring Network Protocol over
 ewan ...
```



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```
enable IP routing (Yes, yes/no): yes
obtain IP addresses automatically (Yes, yes/no): no
enter EWAN IP address (Unspecified): 10.34.72.66
enter EWAN IP netmask (Unspecified): 255.255.255.0
enter remote ISP gateway IP address (Unspecified): 10.34.72.1
The Gateway IP address has been set as the IP default route
AV-3004>
```

**Description：**

- ewan：profile default name.
- Enter encapsulation type：Please select the way to obtain IP address is over Ethernet or PPPoE.
- EWAN IP address：The IP address of the Gateway.

Please contact your network administrator for a valid public IP address, subnet mask and the remote gateway IP address.

## *4.2 IP Setting through DHCP*

If your network uses DHCP server to monitor all the IP addresses, you can use DHCP setting to get the IP address.

**✦【add profile ewan】**

**Example：**

```
AV-3004> add profile ewan
The system is currently in Express Mode, press Ctrl-E to switch to Advanced
Mode.
Edit existing conection profile "ewan" ...
Interface type: Ewan
Enter encapsulation type (Ethernet, Ethernet/PPPoE): ethernet
Profile ewan is configured successfully. Configuring Network Protocol over
ewan ...
enable IP routing (Yes, yes/no): yes
obtin IP addresses automatically (No, yes/no): yes
enter host name [system name] (AVOIS AV-3004):FXO-D
```



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```
 Associated routes and filters have been deleted.
AV-3004>
```

### ✦【show ip】：List all the current IP setting

```
AV-3004>show ip
          Admin    Oper                                    Destination/
Ifname    State    State    IP Address       Netmask       Broadcast Addr
Default   Enable   Up       10.34.92.161     255.255.255.0 10.34.92.255
AV-3004>
```

### Description：

- obtain IP addresses automatically：Obtain IP through DHCP

- If the Gateway is structured on the company's network and the MIS administrator assigns the IP to the Gateway through DHCP, please use DHCP setting to get Gateway's IP address.
- Due to the IP address obtained by way of DHCP may be varied, we recommend to compatible with Gatekeeper. If the Gateway registers to the Gatekeeper, the Gateway can communicate with other Gateways.

## *4.3 IP Setting through PPPoE*

If you use ADSL or other dial-up method to get connected to ISP, the ISP will give you the specific account name and password. We recommend you can use PPPoE setting to get the IP address of the Gateway.
When the connection via PPPoE is disconnected, AV-3000 series(FXO) Gateway will re-connect automatically.

### ✦【add profile ewan】

### Example：

```
AV-3004>add profile ewan
  The system is currently in Express Mode, press Ctrl-E to switch to Advanced
  Mode.
  Edit existing connection profile "ewan"...
  Interface type: EWAN
  enter encapsulation type (Ethernet, Ethernet/PPPoE): pppoe
  enter ISP account name (Unspecified): test
  enter ISP account password (Unspecified): ****
  Profile Default is configured successfully. Configuring Network Protocol over
```



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```
  Default ...
  enable IP routing (Yes, yes/no): yes
  Set this profile as IP default route (Yes, yes/no): yes
AV-3004>
```

**Description：**

- ISP account name & ISP account password：Account name and password provided by ISP。

- Recommend：Thanks to the IP address obtained from ISP may be varied, we recommend to harmony with one Gatekeeper. The Gateway can register to Gatekeeper. Thus, the Gateway can communicate with other Gateways.

## *5. DirectDial Table Setting*

When you get the IP address of other gateways, you can set up the Direct Dial table. It can make you dial easier to other gateways (just like the SpeedDial number on convention phone). The command is as below：

**✦【add directdial number <directdial number, up to 15 decimal digits>】**

**Example：**

```
AV-3004> add directdial number 1001
 Enter display name (Unspecified): GW1001
 Enter remote IP address (Unspecified): 10.34.72.66
 Enter destination extension number (Unspecified): 1111
AV-3004>
```

**Description：**

- display name (Unspecified)：The display name of the other gateway.

- destination extension number (Unspecified)：Enter the destination extension number . If it is NetMeeting, it doesn't need to fill in the number, You just press "enter" directly.

- When you have the other gateway's IP address, you can set the diretddial table to communicate with other gateway.
- When the Gateway doesn't register to a Gatekeeper, we recommend you to set up the directdial table to communicate with other Gateways.
- When the Gateway registers to the Gatekeeper, the all calls will be controlled by Gatekeeper. Therefore,



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the original directdial table set by Gateway will be invalid. We recommend you to enable the『Direct Dial Prefix』function to make the original directdial table set by Gateway workable. The setting and more details of 『Direct Dial Prefix』, please refer to Chap 2, Section 11.4. Meantime, we also recommend you to enable the function of all Gateways which is listed on the directdial table.

Note: DirectDial number is not necessary to setup in order to make a call. But the function can be an extra feature to speed up your frequent dialing call..

## *6. Remote Gateway Code Setting*

To simplify the operation of FXO dialing process, you can set up one code for the remote gateway IP address. For example, the IP address of remote gateway is 10.34.92.100, you can use 「11」to stand for the remote gateway. You just need to input「11」and then it will connect to the remote gateway. The command is as below：

**✦【add remote gateway<id number, 2 decimal digits 00~99>】**

**Example：**

```
AV-3004> add remote gateway 11
 Enter the name(unspecified)          : FXS-11
 Enter the IP address(unspecified)    : 10.34.92.100
 Remote gateway entry (11)  added.
AV-3004>
```

**Description：**

- add remote gateway<id number, 2 decimal digits 00~99>: The code for the remote gateway is 2 decimal digits from 00 to 99.
- Enter the name: The remote gateway's name.



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## 7. Prefix Setting

When you want to dial an outgoing call through the internal line of PBX, the prefix number for outgoing call should be added first. The prefix setting is to make Gateway to know what the prefix number of PBX is. Therefore, the Gateway will add the prefix number automatically when you dial the outgoing call. The command is as below：

✦【set prefix】

**Example：**

```
AV-3004> set prefixtopstn
 Please enter the prefix number for outgoing call.
(n/a, 1~3 decimal digits or n/a for no prefix)
Prefix: 9,
 Prefix number: 9,
AV-3004>
```

**Description：**

- Prefix number for outgoing call: The digits for prefix can be 1~3 digit. You can add the comma 『,』 on behalf of the interval of pause caused by dialing the prefix number(approx. 1 sec).

## 8. Phone Number Digits Setting

When the Gateway connects to PBX, you can set the phone number digits for Gateway to judge the call is internal call or outgoing call. For example as below, you set the minimum number of digits for the outgoing call to『6』, the maximum number of digits for the internal call to 『4』. When you dial a number which length is equal/larger to 6 digit, the Gateway will take it to be an outgoing call. Therefore, Gateway will dial the outgoing prefix first and then dial the number which you dial. The command is as below：

✦【set phonedigit】

**Example：**

```
AV-3004> set phonedigit
 Enter maximum number of digits for PBX extension number:
Number of digits(0, [1~15]): 4
 Enter minimum number of digits for outgoing call phone number:
Number of digits(0, [1~15]): 6
 Maximum number of PBX extension:      4
```



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```
 Minimum number of PSTN phone number:   6
AV-3004>
```

## 9. Speed Dial Table Setting

The function can make you to set the speeddial number to substitute for the destination phone number. It simplifies the complicated dialing plan. FXO VoIP Gateway provides you to set 16 sets of speeddial number. If the Gateway registers to a Gatekeeper, it will transmit the destination phone number to the Gatekeeper. If not, the speeddial number should be the direct dial number which have been set.

If you would like to dial the speeddial number, please press the 『*』 button on the touch-tone phone first. The command is as below：

**✦【add speeddial number <speeddial number, ＜1~3 digits>】**

**Example：**

```
AV-3004> add speeddial number 001
 Enter destination phone number (Unspecified): 86911888
AV-3004>
```

## 10. Dialing restriction Setting

This function can make you set up which call number may not be called in or out. There is 5 sets of call numbers which you can set to be restricted in the gateway. The call numbers can be restricted on「Allow」or「Deny」and the commands which may use are as followings：

【set dialing restriction 1~5】、【show dialing restriction】、【enable dialing restriction】、【disable dialing restriction】.

**✦【set dialing restriction <1~5>】**

**Example：**

```
AV-3004> set dialing restriction 1
 Enter dialing restriction entry (none): 02
AV-3004> set dialing restriction 2
 Enter dialing restriction entry (none): 006
AV-3004> set dialing restriction 3
```



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```
 Enter dialing restriction entry (none): 0922
AV-3004> set dialing restriction 4
 Enter dialing restriction entry (none): 005
AV-3004> set dialing restriction 5
 Enter dialing restriction entry (none): 8501
```

### ✦【show dialing restriction】

```
AV-3004> show dialing restriction
 Dialing Restriction: Disable
 Dialing Restriction entry 1: 02
 Dialing Restriction entry 2: 006
 Dialing Restriction entry 3: 0922
 Dialing Restriction entry 4: 005
Dialing Restriction entry 5: 8501
```

- Dialing Restriction: Disable: Dialing restriction function is disable, you can us the command【enable dialing restriction】to enable it.

### ✦【enable dialing restriction】

### Example：

```
AV-3004> enable dialing restriction
 enter Dialing Restriction mode? (Allow, Allow/Deny): deny
AV-3004> show dialing restriction
  Dialing Restriction: Enable
 Dialing Restriction mode: Deny
 Dialing Restriction entry 1: 02
 Dialing Restriction entry 2: 006
 Dialing Restriction entry 3: 0922
 Dialing Restriction entry 4: 005
 Dialing Restriction entry 5: 8501
```

### ✦【disable dialing restriction】

### Example：

```
AV-3004> disable dialing restriction
AV-3004> show dialing restriction
```



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```
Dialing Restriction: Disable
Dialing Restriction entry 1: 02
Dialing Restriction entry 2: 006
Dialing Restriction entry 3: 0922
Dialing Restriction entry 4: 005
Dialing Restriction entry 5: 8501
```

## *11. Prefix Rule Setting*

When the Gateway registers to the Gatekeeper, the number of the incoming call and outgoing call should be conformed to dial plan of Gatekeeper. Therefore, the prefix which is defined by Gatekeeper will be added on the number. avois Gateway provides the function to let the Gateway has the capability to deal with the prefix.

The prefix rule of this function can be divided into 4 forms：「Incoming call prefix」、「Outgoing call prefix」、「local area code/country code prefix」、「directdial prefix」.The meanings are explained as below：

## *11.1 Remove the prefix on incoming calls*

When the gateway receives the incoming call, it may include other numbers or prefix added by the gatekeeper (for example, E.164 Alias Name). Due to such numbers may not be found at the Gateway Number Plan, the gateway may not understand. Therefore, you can enable the 「Remove the prefix of incoming calls」to delete the incoming prefix automatically.

## *11.2 Add Prefix on the outgoing call*

When the Gatekeeper receives a call from Gateway, it has to decide to transfer the call to which destination(Gateway). For some dial plan of the intranet call, the Gatekeeper transfers the call based on the prefix number of the Gateway. The prefix number of the destination will be added on the outgoing call automatically for the sake of not changing the dial habit of the user. You can enable the『Add prefix on the outgoing call』. When the digit of the outgoing call is less than the length that has been set(intranet call), the Gateway will add the prefix number on the outgoing call automatically. On the other hand, if the digit is larger than the length that has been set(internet call), the Gateway will not add the prefix number on it.

## *11.3 Add Local area code/Country code*

Enable the function can make the gateway to recognize the outgoing call is toll call or local call based on the prefix number of the call.

When the『local area code』function is enabled, you can choose to enable the『Country code』function. Gateway will judge if it is needed to add the country code on the outgoing call.



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## *11.4 Enable Directdial Prefix*

When the gateway registers to the gatekeeper, the original direcdial table to other gateway may not work. To solve this problem, you can enable『Directdial prefix』function. Gateway will judge the call should be handled by Gatekeeper or to deal by itself with directdial table. To ensure the directdial table is workable, we recommend you to enable the『DirectDial Prefix』function of all Gateways.

The Command,【set prefix rule】can let you enable/disable the function of『Remove the prefix on incoming calls』,『Add the prefix on the outgoing calls』,『Add local area code/country code』,『Enable directdial prefix』. Regarding the detail introduction of the above mentioned, please refer to Section 11.1~11.4

The commands are as below：

### ✦【set prefix rule】

### Example：

### Remove the prefix

#### Exactly Match(Example 1)

```
AV-3004S> set prefix rule
 Do you want to remove the prefix of incoming calls? (No, Yes/No): yes
 The number of digits of the incoming prefix? (0, 0=exactly match/1-7): 0
 enter Incoming Prefix (Unspecified): 8511
```

### Description：

- 0：Remove the prefix which is exactly matched to your setting. You have to fill in the prefix which you want to remove.
- 1-7：Remove the digits which you set. The maximum digits is limited to 7.

#### Digits Match(Example 2)

```
AV-3004S> set prefix rule
 Do you want to remove the prefix of incoming calls? (No, Yes/No): yes
 The number of digits of the incoming prefix? (0, 0=exactly match/1-7): 4
```

### Description：

- the number of digits of the incoming prefix：When you enter『0』, you have to enter the prefix number of the incoming call which you would like to remove. When the prefix of the incoming call is equivalent



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to your setting, its prefix will be removed. For example 1, the incoming prefix is『8511』.

- the number of digits of the incoming prefix：When you enter the number between 1~7, that indicates the digits of the prefix which you want to remove. For example 2, the number of digits is『4』, the Gateway will remove the former 4 digits of the prefix of the incoming call.

**Add the prefix on the outgoing call**

```
Do you want to add the prefix of outgoing calls? (No, Yes/No): yes
 On how many digits (less than) should the prefix be added? (7, 2-10): 5
 enter Outgoing Prefix (Unspecified): 8511
```

## Description：

- On how many digits (less than) should the prefix be added：When the digits of the outgoing call is less than length of setting, the Gateway will add the prefix on the outgoing call. For example, if you dial a number,『2001』which is less than 5 digits, the Gateway will add the prefix on it. The transmitted number will be『85112001』. If you dial a number,『86911689』 which is larger 5 digits, the prefix will not be added.

- Outgoing Prefix：The prefix which you want to add on the outgoing call.

**Add the area code**

```
Do you want to add the local area code when local call? (No, Yes/No): yes
 enter Local Area Code (Unspecified): 02
 enter Toll Call Prefix (Unspecified): 0
```

## Description：

- Local Area Code：Local area code(Limit to 4 digits).

- Toll Call Prefix：Toll call prefix(Limit to 4digits).

- Gateway will judge the call is local area call or toll call based on the dialed number. For example, the first digit of the number is not『0』, the call is local area call.

When to add a local area code：When the number is conform to the toll call prefix, the call is toll call and the prefix which you set will not be added. Otherwise, it is local area call and the prefix will be added automatically.



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**Add the country code**

```
Do you want to add country code when toll call? (No, Yes/No): yes
 enter Country Code (Unspecified): 886
 enter International Call Prefix (Unspecified): 00
```

**Description：**

- Country Code：Country code(Limit to 4 digits).
- International Call Prefix：International call prefix(Limit to 4 digits). The Gateway will judge the call is international call or not based on the outgoing call number. For example, if the former digits is not『00』, the Gateway will add the country code on the outgoing call automatically.

When to add the country code：When the number is conform to the International call prefix, the call is international call and the country code will not be added. Otherwise, it is toll call and the country code will be added automatically.

**Enable the direct dial prefix**

```
enable Direct Dial Prefix? (No, Yes/No): yes
```

**Description：**

- When the gateway registers to the gatekeeper, the original direcdial table to other gateway may not work. To solve this problem, you can enable『Directdial prefix』function. Gateway will judge the call should be handled by Gatekeeper or to deal by itself with directdial table. To ensure the directdial table is workable, we recommend you to enable the『DirectDial Prefix』function of all Gateways.

## *12. Gatekeeper Mode Setting*

The Gateway registering to a Gatekeeper can make you easily to manage the Gateways. For example, dialing restriction, group management, billing system…etc. You can assign the other two Static Alternate Gatekeepers(SGK) to be the Gateway's alternate Gatekeeper. When the Gatekeeper which the Gateway registers to is unable to work, the Gateway will register to the static alternate Gatekeeper automatically. In addition, if the



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Gateway registers to the Gatekeeper successfully, the Gatekeeper will also transmit its AGK's IP addresses to the Gateway.

The way for Gateway to register to a Gatekeeper can be by port and by Gateway. The introduction is as below:

## *12.1 Registration by Gateway*

### ✦【set h323】

### Example：

```
AV-3004> set gatekeeper
 Enter gatekeeper mode (Off, Off/Static): static
 Enter gatekeeper IP address (Unspecified): 10.34.72.185
 Enter the static alternative gatekeeper IP address? (No, Yes/No): yes
 Enter the first static alternative gatekeeper IP address (Unspecified)
 : 10.34.92.168
 Enter the secondary static alternative gatekeeper IP address (Unspecified)
 : 10.34.92.144
 Register by gateway or by port? (Gateway, Gateway/Port): gateway
 Register with E.164 alias? (Yes, Yes/No): yes
Enter E.164 alias name (3004): 3004
 Register with H.323 ID? (No, Yes/No): yes
 Enter H.323 ID (Unspecified): FXO-Taipei
 Registering to gatekeeper. Please wait...
AV-3004>
```

### Description：

- Enter Gatekeeper mode ( Off， Off/Static )：If you don't use a gatekeeper to be compatible with the gateway, it is necessary to set the gatekeeper mode to off mode in order to make the gateway operating properly.
- E.164 alias name：E.164 is instituted by ITU-T. Generally, it is the telephone number. Please input the number which is issued by Administrator.
- H.323 ID：It can be any strings. For example, the email address or domain name.

When the Gateway registers to Gatekeeper by『Gateway』,it can use『E.164 alias name』and『H.323 ID』or one of them for registration. However, one of them should be chosen at least. The E.164 alias



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name and H.323 ID is offered by Gatekeeper.

## *12.2 Registration by Port*

✦【set h323】

**Example：**

```
AV-3004> set gatekeeper
 Enter gatekeeper mode (Static, Off/Static):
 Enter gatekeeper IP address (10.34.72.185):
 Enter the static alternative gatekeeper IP address? (Yes, Yes/No):
 Enter the first static alternative gatekeeper IP address (10.34.92.168)
 :
 Enter the secondary static alternative gatekeeper IP address (10.34.92.144)
 :
 Register by gateway or by port? (Gateway, Gateway/Port): port
 Enter registration information for port A.1...
 Enter E.164 alias name (Unspecified): 1001
 Enter registration information for port A.2...
 Enter E.164 alias name (Unspecified): 1002
 Enter registration information for port A.3...
 Enter E.164 alias name (Unspecified): 1003
 Enter registration information for port A.4...
 Enter E.164 alias name (Unspecified): 1004
 Register with H.323 ID? (Yes, Yes/No): yes
 Enter H.323 ID (FXO-Taipei):
 Registering to gatekeeper. Please wait...
AV-3004>
```

**Description：**

- Gatekeeper mode：If you don't use a gatekeeper to be compatible with the gateway, it is necessary to set the gatekeeper mode to off mode in order to make the gateway working properly.
- E.164 alias name：E.164 is instituted by ITU-T. Generally, it is the telephone number. Please fill in the number which is issued by Administrator.



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- H.323 ID：It can be any strings. For example, the email address or domain name.

When the Gateway registers to Gatekeeper by『port』, the E.164 alias name of each port should be input and the H.323 ID can be input or not based on your choice.

If you would like to see the information of H.323, you can use the following command ：

**✦【show h323】: List gatekeeper H.323 information(Registration by Gateway for example)**

**Example：**

```
AV-3004> show gatekeeper
 Gatekeeper mode: Static
 Gatekeeper IP address: 10.34.72.185
 The first static alternative gatekeeper IP address: 10.34.92.168
 The secondary static alternative gatekeeper IP address: 10.34.92.144
 Register by Gateway
 E.164 alias: 3004
 H.323 ID: FXO-Taipei
 Registered: Yes
AV-3004>
```

**Description：**

- Registered：You can check the item if the Gateway registers to the Gatekeeper successfully or not.



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# 13. H.323 Setting

You can set the H.323 setting including enabling Fast Start mode, Tunneling mode, Q.931 status enquiry…etc.

## 13.1 General Setting

### ✦【set h323】

### Example：

```
AV-3004> set h323
 Enable fast start mode (Yes, Yes/No): yes
 Enable tunneling mode (Yes, Yes/No): yes
 Enable H245 user input(Out-Of-Band DTMF) setting:
  <*NOTE: H245 user input is required in PSTN/Incoming IP password checking.>
  H245 user input (Yes, Yes/No): yes
 Enter Q.931 status enquiry keepalive timeout (90, 0/10-180): 100
AV-3004>
```

### Description：

- Fast Start mode：If the remote Gateway supports the Fast Start function , you can enable Fast Start mode function. It can diminish the connection time.
- Tunneling mode：If the remote Gateway supports Tunneling function, you can enable Tunneling mode function. It can diminish the resource that setting up H.245 logical tunnel needs. (H.245：Decide which codec to use and the major and slave.).
- Q.931 Status Enquiry keepalive timeout：If there is something wrong in the Internet or the remote gateway has no response, you can set the time expiration to close the call.(0：disable)
- H.245 user input(Out-of-Band DTMF)：DTMF(Dual Tone Multi Frequency) is the tone generated on a touchtone phone when you press keypad digits. If you choose『No』that indicates after the call is connected, the Gateway will transport the DTMF tone generated from the touchtone phone by『voice stream』to the remote Gateway. If you choose『Yes』, that indicates after the call is connected, the Gateway will transmit the DTMF tone by『digit』to the remote Gateway. The default setting is『transmit DTMF Out-of-Band』.

Fast Start and Tunneling function will be valid when the remote Gateway is also enable the functions.



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## *13.2 Advanced Setting*

The advanced setting is for H.323 protocol. For example, you can choose the different TOS(Type of Service) to transmit the control packet or audio packet. Or enabling Q.931 status enquiry function, Fast start function, Tunneling function…etc.

Please press **Ctrl** + **E** to enter the Advance mode.

### ✦【set h323】: H.323 advanced settings

### Example :

```
AV-3004>>> set h323
 Enable fast start mode (Yes, Yes/No):yes
 Enable tunneling mode (Yes, Yes/No):yes
 Enable H245 user input(Out-Of-Band DTMF) setting:
  <*NOTE: H245 user input is required in PSTN/Incoming IP password checking.>
  H245 user input (Yes, Yes/No):yes
 Enter Q.931 status enquiry keepalive timeout (100, 0/10-180):100
 enter TOS type :  0> Normal Service          1> Minimize Monetary Cost
                   2> Maximize Reliability    3> Maximize Throughput
                   4> Minimize Delay
 enter H.323 control packets TOS type (0): 2
 Enter H.323 audio packets TOS type (0): 4
AV-3004>>>
```

### Description :

- Fast Start mode : If the remote Gateway supports the Fast Start function , you can enable Fast Start mode function. It can diminish the connection time.
- Tunneling mode : If the remote Gateway supports Tunneling function, you can enable Tunneling mode function. It can diminish the resource that setting up H.245 logical tunnel needs. (H.245 : Decide which codec to use and the major and slave.).
- H.245 user input(Out-of-Band DTMF) : DTMF(Dual Tone Multi Frequency) is the tone generated on a touchtone phone when you press keypad digits. If you choose 『No』 that indicates after the call is connected, the Gateway will transport the DTMF tone generated from the touchtone phone by 『voice stream』 to the remote Gateway. If you choose 『Yes』, that indicates after the call is connected, the



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Gateway will transmit the DTMF tone by『digit』to the remote Gateway. The default setting is『transmit DTMF Out-of-Band』.

- Q.931 Status Enquiry keepalive timeout：If there is something wrong in the Internet or the remote gateway has no response, you can set the time expiration to close the call.(0：disable)
- H.323 control packets TOS type：Set the TOS type for transmitting the control packet. We recommend you to set at『2』Maximize Reliability. When the router supports the TOS function and transmits the packets based on the designated TOS, the transmission quality will be better.
  - Normal Service：Normal service.
  - Minimize Monetary Cost：Ask the router to transmit the packet based on the minimize monetary cost.
  - Maximize Reliability：Ask the router to transmit the packet based on the maximize reliability.
  - Maximize Throughput：Ask the router to transmit the packet based on the maximize throughput per period.
  - Minimize Delay：Ask the router to transmit the packet based on the maximize reliability.
- H.323 audio packets TOS type：We recommend you to set at『4』Minimize Delay. When the router supports the TOS function and transmits the packets based on the designated TOS, the transmission quality will be better.

Fast Start and Tunneling function will be valid when the remote Gateway is also enable the functions.

## *14. Accept IP Table Setting*

The 「Accept IP Table」is one of the most important functions of Gateway. You can set the acceptable IP entry. Please note if the Gateway registers to a Gatekeeper, the accept IP table will become unworkable. Please note if you set the accept IP table, you can decide to enable or disable it. However, if you would like to enable the function, the Gatekeeper mode should be off.



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✦【add accept ip <id number, 2 decimal digits 00~99>】

**Example：**

```
AV-3004> add accept ip 10
Enter the name(unspecified)： ID4
Enter the IP address(unspecified)： 10.34.92.100
Acceptable IP entry (10) added.
AV-3004>
```

**Description：**

- Enter the name (unspecified)：The name makes you easier to recognize the source of IP.

If you have set the acceptable IP table, please use the following commands to enable or disable the function.

✦【enable accept ip】：Enable acceptable IP table

✦【disable accept ip】：Disable acceptable IP table

## *15. Ringback tone off detection Setting*

When the function is enabled, the Gateway will not report back the call is in connection status until the remote endpoint has picked up the phone. If the call of the endpoint is busy, the Gateway will disconnect the call automatically. This function can be the tool of billing system for ITSP/ISP/Telecom company.

✦【set voice fxo】

**Example：**

```
AV-3004> set voice fxo
 Ringback tone off detection (Disabled, Enable/Disable): enable
 Silence detection (Disabled, Enable/Disable):
 The caller ID detection (Disabled, Enable/Disable):
 The user defined automatic numbering identification[ANI]
 (Disabled, Enable/Disable):
 Accept incoming call from the network side (Enabled, Enable/Disable):
 Accept incoming call from the analog side (Enabled, Enable/Disable):
 Follow-on call (Disabled, Enable/Disable):
```



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```
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable):
 FXO Settings:
------------------------------
 Ringback tone off detection: Enabled
 Silence detection: Disabled
 The caller ID detection: Disabled
 User defined ANI: Disabled
 Accept incoming call from the network side: Enabled
 Accept incoming call from the analog  side: Enabled
 The follow-on call: Disabled
 The specific DTMF tone detection: Disabled
AV-3004>
```

## *16. Silence Detection Setting*

Gateway will detect the level of silence between the caller and callee. When the Gateway detects the duration for silence exceeding the set time, it will disconnect the call automatically.

### ✦【set voice fxo】

### Example：

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable): enable
 Silence detection (Disabled, Enable/Disable): enable
 Enter the duration time of the silence detection (60, 30~180 sec): 50
 The caller ID detection (Disabled, Enable/Disable):
 The user defined automatic numbering identification[ANI]
 (Disabled, Enable/Disable):
 Accept incoming call from the network side (Enabled, Enable/Disable):
 Accept incoming call from the analog side (Enabled, Enable/Disable):
 Follow-on call (Disabled, Enable/Disable):
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable):

 FXO Settings:
```



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```
------------------------------
 Ringback tone off detection: Enabled
 The duration time of the silence detection: 50 sec
 The caller ID detection: Disabled
 User defined ANI: Disabled
 Accept incoming call from the network side: Enabled
 Accept incoming call from the analog  side: Enabled
 The follow-on call: Disabled
 The specific DTMF tone detection: Disabled
AV-3004>
```

**Description :**

- Duration time of the silence detection：.Set the duration of the silence for Gateway to disconnect the call.

## *17. Caller ID Detection Setting*

You can enable this function to let Gateway to detect the caller ID information from the caller. The caller ID type can be divided into FSK(Frequency Shift Keying) and DTMF(Dual Tone Multi-Frequency). This function can be an auxiliary tool for billing system.

FXO Gateway will take the caller ID to be its calling party number which can be divided into the following types.

| | Caller ID |
|---|---|
| With ANI | Whether the Gateway registers to Gatekeeper or not, Gateway will take the ANI to be its calling number. |
| Without ANI | 1. Registering to Gatekeeper only: If Gateway detects the Caller ID, it will take the caller ID to be its calling party number, If not, Gateway will take E.164 alias name to be its calling party number.<br>2. Direct Dial Table only: If Gateway detects the Caller ID, it will take the caller ID to be the calling party number. If not, the voice port number will be the calling party number. |
| Register to Gatekeeper and set the Direct dial table | 1. Caller ID and Direct dial setting : Caller ID will be the calling party number.<br>2. Without Caller ID but Direct dial number: Voice port number will be the calling |



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| | |
|---|---|
| | party number.<br>3. Neither Caller ID nor Direct dial number: E.164 alias name will be the calling party number. |

✦【set voice fxo】

**Example：**

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable): enable
 Silence detection (Enabled, Enable/Disable): enable
 Enter the duration time of the silence detection (50, 30~180 sec):
 The caller ID detection (Disabled, Enable/Disable): enable
 Caller ID type    1>Bellcore FSK
                   2>ETSI FSK
                   3>ETSI DTMF (2, 1/2/3): 2
 Caller ID place   1>Before the first ring
                   2>Between the first and second ring (2, 1/2): 2
 The user defined automatic numbering identification[ANI]
 (Disabled, Enable/Disable):
 Accept incoming call from the network side (Enabled, Enable/Disable):
 Accept incoming call from the analog side (Enabled, Enable/Disable):
 Follow-on call (Disabled, Enable/Disable):
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable):

 FXO Settings:
------------------------------
 Ringback tone off detection: Enabled
 The duration time of the silence detection: 50 sec
 The caller ID type: ETSI FSK
 The caller ID place Between the first and second ring
 User defined ANI: Disabled
 Accept incoming call from the network side: Enabled
```



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```
Accept incoming call from the analog  side: Enabled
The follow-on call: Disabled
The specific DTMF tone detection: Disabled
AV-3004>
```

**Description：**

- Caller ID type: The standard type for caller id can be divided into three types. Please choose the type for your local use.
  - **Bellcore FSK: The standard is adopted in USA, Canada and Hong Kong.**
  - **ETSI FSK: The standard is adopted in European countries and Taiwan.**
  - **ETSI DTMF: The standard is adopted in Taiwan and India.**
- Caller ID place: The types to detect caller ID can be『Before the first ring』and 『Between the first and second ring』. You can choose one of them depending on your local Telecom's setting.

Please note in the following condition, we recommend you not to choose the caller ID place to『Before the first ring』→ ***the PBX/CO doesn't provide the caller ID function***. If you enable the Caller ID Detection function and choose the caller ID place to『Before the first ring』, the caller will not receive the ringback tone and the call will become failed.

## *18. ANI Setting*

AV-3000 Series(FXO) VoIP Gateway supports ANI(Automatic Numbering Identification) function. You can set the ANI number for the Gateway. The Gateway will take the ANI to be its calling party number for all the outgoing calls. If the Gateway registers to a Gatekeeper, the ANI also can be a tool for billing system.

**✦【set voice fxo】**

**Example：**

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable): enable
 Silence detection (Enabled, Enable/Disable): enable
 Enter the duration time of the silence detection (50, 30~180 sec):
 The caller ID detection (Enabled, Enable/Disable):
 Caller ID type    1>Bellcore FSK
                   2>ETSI FSK
                   3>ETSI DTMF (2, 1/2/3):
```



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```
 Caller ID place   1>Before the first ring
                   2>Between the first and second ring (2, 1/2):
 The user defined automatic numbering identification[ANI]
 (Disabled, Enable/Disable): enable
 The ANI number (None, up to 15 digits): 86910001
 Accept incoming call from the network side (Enabled, Enable/Disable): d
 Accept incoming call from the analog side (Enabled, Enable/Disable): d
 Follow-on call (Disabled, Enable/Disable): d
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable): d

 FXO Settings:
------------------------------
 Ringback tone off detection: Enabled
 The duration time of the silence detection: 50 sec
 The caller ID type: ETSI FSK
 The caller ID place Between the first and second ring
 The user defined ANI number: 86910001
 Accept incoming call from the network side: Enabled
 Accept incoming call from the analog  side: Enabled
 The follow-on call: Disabled
 The specific DTMF tone detection: Disabled
AV-3004>
```

## *19. Incoming/Outgoing Call Restriction Setting*

AV-3000 Series(FXO) VoIP Gateway can set to accept/reject the incoming call from network side and the analog side. The default setting is enable to accept the incoming call from network side and analog side.

### ✦【set voice fxo】

### Example：

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable):
 Silence detection (Enabled, Enable/Disable):
 Enter the duration time of the silence detection (50, 30~180 sec): 50
```



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```
The caller ID detection (Enabled, Enable/Disable):
Caller ID type    1>Bellcore FSK
                  2>ETSI FSK
                  3>ETSI DTMF (2, 1/2/3):
Caller ID place   1>Before the first ring
                  2>Between the first and second ring (2, 1/2):
The user defined automatic numbering identification[ANI]
(Enabled, Enable/Disable): e
The ANI number (86910001, up to 15 digits):
Accept incoming call from the network side (Enabled, Enable/Disable): enable
Accept incoming call from the analog side (Enabled, Enable/Disable): enable
Follow-on call (Disabled, Enable/Disable): d
Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable): d

FXO Settings:
------------------------------
Ringback tone off detection: Enabled
The duration time of the silence detection: 50 sec
The caller ID type: ETSI FSK
The caller ID place Between the first and second ring
The user defined ANI number: 86910001
Accept incoming call from the network side: Enabled
Accept incoming call from the analog side: Enabled
The follow-on call: Disabled
The specific DTMF tone detection: Disabled
AV-3004>
```

- Accept incoming call from the network side：Accept the call from network or not.
- Accept incoming call from the analog side：Accept the call from PSTN to network or not.

## 20. Follow-on Call Setting

Follow-on call function provides the caller to make another network call without closing the current connection. The caller can get the dial tone by pressing the specific keys after closing a network call. This function is suitable for use in specific countries which the telephone bill charges by『call』, not by『second』or『minute』.



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**However, please note if the voice port has set the hot line function, the follow-on call function will not be workable.**

### ✦【set voice fxo】

### Example：

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable):
 Silence detection (Enabled, Enable/Disable):
 Enter the duration time of the silence detection (50, 30~180 sec):
 The caller ID detection (Enabled, Enable/Disable):
 Caller ID type    1>Bellcore FSK
                   2>ETSI FSK
                   3>ETSI DTMF (2, 1/2/3):
 Caller ID place   1>Before the first ring
                   2>Between the first and second ring (2, 1/2):
 The user defined automatic numbering identification[ANI]
 (Enabled, Enable/Disable):
 The ANI number (86910001, up to 15 digits):
 Accept incoming call from the network side (Enabled, Enable/Disable):
 Accept incoming call from the analog side (Enabled, Enable/Disable):
 Follow-on call (Disabled, Enable/Disable): enable
 Enter three DTMF to use follow-on call (None, DTMF(0~9/*/#)): *0#
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable):

 FXO Settings:
------------------------------
 Ringback tone off detection: Enabled
 The duration time of the silence detection: 50 sec
 The caller ID type: ETSI FSK
 The caller ID place Between the first and second ring
 The user defined ANI number: 86910001
 Accept incoming call from the network side: Enabled
 Accept incoming call from the analog  side: Enabled
 The DTMF strings to use follow-on call: *0#
 The specific DTMF tone detection: Disabled
```



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```
AV-3004>
```

- Enter three DTMF to use follow-on call：Set the three digits for dialing the follow-on call.

## *21. Specific DTMF Tone Detection Setting*

An auxiliary device can be installed between the Gateway and the PBX/CO side for transmitting the remote endpoint's status (on-hook or off-hook) to the Gateway. The DTMF tone can be set to indicate the specific meaning. For example, the C-tone indicates off-hook status and D-tone indicates on-hook status. The function can be a tool for billing system.

### ✦【set voice fxo】

### Example：

```
AV-3004> set voice fxo
 Ringback tone off detection (Enabled, Enable/Disable):
 Silence detection (Enabled, Enable/Disable):
 Enter the duration time of the silence detection (50, 30~180 sec):
 The caller ID detection (Enabled, Enable/Disable):
 Caller ID type    1>Bellcore FSK
                   2>ETSI FSK
                   3>ETSI DTMF (2, 1/2/3):
 Caller ID place   1>Before the first ring
                   2>Between the first and second ring (2, 1/2):
 The user defined automatic numbering identification[ANI]
 (Enabled, Enable/Disable):
 The ANI number (86910001, up to 15 digits):
 Accept incoming call from the network side (Enabled, Enable/Disable):
 Accept incoming call from the analog side (Enabled, Enable/Disable):
 Follow-on call (Enabled, Enable/Disable):
 Enter three DTMF to use follow-on call (*0#, DTMF(0~9/*/#)):
 Specific DTMF detection of the remote party goes off-hook or on-hook
(Disabled, Enable/Disable): enable
 Enter the DTMF tone to detect remote goes off-hook (C, A/B/C/D): c
 Enter the DTMF tone to detect remote goes on-hook (D, A/B/C/D): d

 FXO Settings:
```



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```
------------------------------
 Ringback tone off detection: Enabled
 The duration time of the silence detection: 50 sec
 The caller ID type: ETSI FSK
 The caller ID place Between the first and second ring
 The user defined ANI number: 86910001
 Accept incoming call from the network side: Enabled
 Accept incoming call from the analog  side: Enabled
 The DTMF strings to use follow-on call: *0#
 The DTMF tone when the remote party picks up: DTMF C
 The DTMF tone when the remote party hangs up: DTMF D
AV-3004>
```

- Enter the DTMF tone to detect remote goes off-hook: Set the DTMF tone to indicate the remote status is 『off-hook』.
- Enter the DTMF tone to detect remote goes on-hook: Set the DTMF tone to indicate remote status is 『on-hook』.

# 22. Voice Parameter Setting

## 22.1 General Setting

You can set the codec type and VoIP timer expiration. AV-3000 series (FXO) Gateway provides the function to switch the codec to be as the same as caller's automatically when it is a callee. On the other hand, when it is a caller, it will spend at most 5 seconds to wait the callee to switch the codec if the codec is different. When the callee doesn't switch the codec, avois VoIP Gateway will disconnect the call. The command is as below：

### ✦【set voice parameters】

### Example：

```
AV-3004> set voice parameters
 Enter number of seconds for VoIP timer expiration (60, 30-360): 60
 Preferred audio CODEC:     0> G.711 A-law  1> G.711 u-law
                            2> G.723 5.3K   3> G.723 6.3K
                            4> G.729A
Codec type(3,[0~4]): 3
```



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```
Voice Parameters:
-------------------------
 VOIP Timeout: 60 sec
 Audio Codec: G.723 6.3K
 DTMF relay: Enabled
 The dialing method: DTMF
 The duration time of DTMF tone: 150 ms
 DTMF tone power: -9 dBm
 Call progress tone power: -21 dBm
AV-3004>
```

## Description :

- Enter the number of seconds for VoIP timer expiration: If the remote Gateway has no any response for the call, Gateway will close the connection when the time exceeds the set time.

If the gateway wants to communicate with the endpoint, the gateway and the end point should have the same voice codec .

G.711 needs a larger bandwidth. (64K) .We recommend the maximum of G.711 ports are limited to 2 ports.

- G.711 A-law is codec G.711 of A standard(64 K)
- G.711 μ-law is codec G.711 pf u standard(64 K)
- G.723 5.3 K is the codec of super-low bandwidth codec standard.(5.3K) and G.723 6.3K is the codec of low bandwidth codec standard (6.3K)
- G.729A is the codec of low bandwidth codec standard (8K)


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## 22.2 Advanced Setting

AV-3000 Series (FXO) VoIP Gateway provides the dialing methods not only DTMF dialing method but also pulse dialing method. It is suitable for use in the country which the dialing method is pulse. You also can set the DTMF duration time for the Gateway. The duration time period is from 100 ms to 250 ms.

### ✦【set voice parameters】

### Example：

```
AV-3004>>> set voice parameters
 Enter number of seconds for VoIP timer expiration (60, 20-60):
 Preferred audio CODEC:     0> G.711 A-law  1> G.711 u-law
                            2> G.723 5.3K   3> G.723 6.3K
                            4> G.729A
Codec type(3,[0~4]):
 DTMF relay (Enabled, Enable/Disable):
 Dialing method (DTMF, DTMF/Pulse): pulse
 Enter the duration time of DTMF tone (150, 100~250 ms): 150
 DTMF tone power (-9 dBm, range: -28 ~ 3 dBm):
 Call progress tone power (-21 dBm, range: -28 ~ 3 dBm):

Voice Parameters:
-------------------------
 VOIP Timeout: 60 sec
 Audio Codec: G.723 6.3K
 DTMF relay: Enabled
 The dialing method: Pulse
 The duration time of DTMF tone: 150 ms
 DTMF tone power: -9 dBm
 Call progress tone power: -21 dBm

AV-3004>>>
```

### Description：

- duration time of DTMF tone：Set the duration time of DTMF tone.



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## 23. IP Address Dialing through Touchtone Phone

AV-3000 Series(FXO) Gateway provides you to dial IP address for the remote Gateway on the touchtone phone directly. For example, please use a touchtone phone to dial to the FXO Gateway , After getting the dial tone, please dial the IP address of the remote Gateway. If IP address is 10.34.92.100, please dial 10*34*92*100.

## 24. SNTP Server Setting

AV-3000 Series (FXO) VoIP Gateway provides three sets of default SNTP server. After the IP address setting is completed, the Gateway will link to the default sntp server and get the universal time, GMT(Greenwich Mean Time). GMT will be the Gateway's default time. Afterwards, if you set the time zone, the time of the Gateway will become the local time. Please remember to use the command,【save config】to save this configuration. In addition, you also can designate the SNTP server by your choice.

✦【set sntp】

```
AV-3004> set sntp
 Enter SNTP server IP address (210.59.157.10): 210.59.157.10
```

✦【show sntp】

```
AV-3004> show sntp
 SNTP server IP address : 210.59.157.10
 The interval time to query SNTP server : 6 hours
```



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## *25. Upgrade System Version.*

The function can let you upgrade the version into the new one via Command Line Interface. You just need to key in the file path and then the system will upgrade automatically.

✦【download firmware】

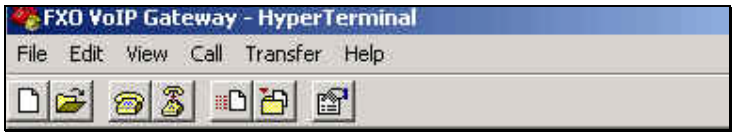
**Step 1**

```
AV-3004> download firmware
Warning： This operation will cause a system reset upon completion. All unsaved
configuration changes will be lost.
Do you want to continue (y/n)? yes
Enter choice of terminal speed - 1)57，600， 2)38，400， 3)19，200： 1
AV-3004>
```

**Description：**

- choice of terminal speed：Set the terminal speed to 1) 57600 and then terminate the connection.

**Step 2：** Disconnect




**Step 3：** Choose →『Connect to』→『Configure』→『Bits per Second』,choose「57600」, press『OK』 and then re-connect。



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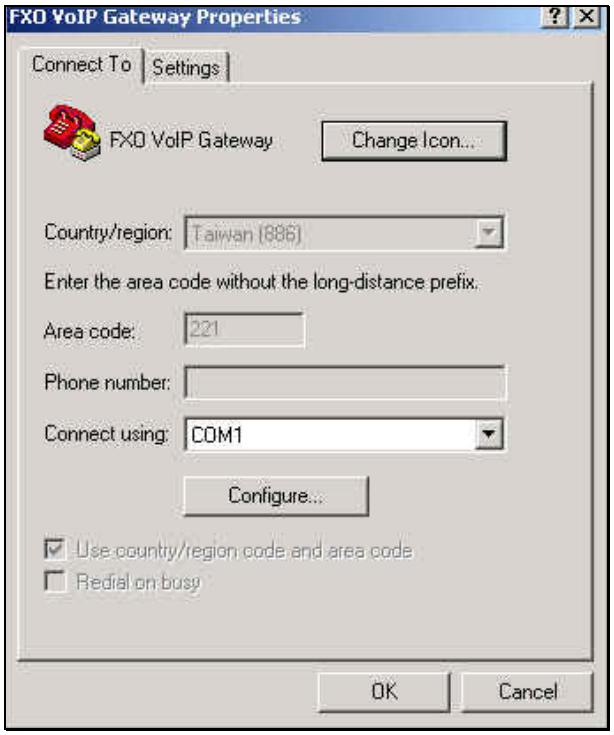


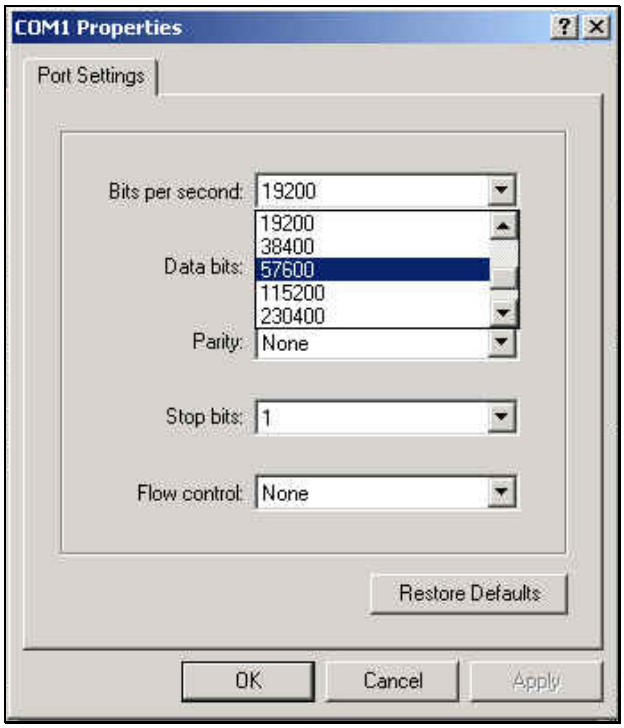


**Step4：** Press『Enter』on the keyboard. The commands will appear on CLI. Press『S』to start the transmission function。



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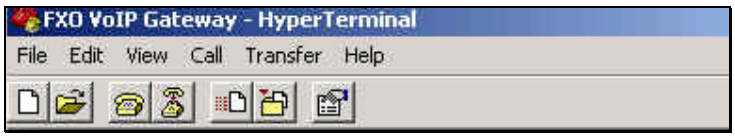
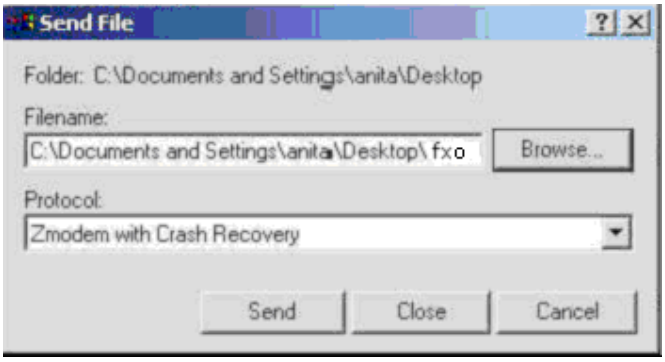
```
Please press 's' to start your Z-modem file transfer
Start transferring...
```

**Step5：Choose 『Transfer』 → 『Send File』。**



**Step6：** The Send File window will appear as the following. We recommend you to download the updated file to your hard disk in advance. Please press『Send』. The Transmission is about 4 minutes to complete.



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**Step7**：When the transmission completes, the CLI will appear the following commands.

```
? Good Receive 1158203 bytes
Resetting router. Please reset speed to 19200 bps for correct console
operation.
```

**Step8**：Please disconnect again and set the terminal speed back to 『19200』.After that please reconnect. The upgrade is completed.

**Step9：You can use【show system】to check the new version.**

```
AV-3004> show system

  System Name: FXO-D                 Up Time:  0 months  0 days 00:00:27
 ------------------------------------------------------------------------
  system description:     VoIP Gateway
  system contact:         Unknown
  system location:        Unknown
  community string (read): public
  Trap generation:        Disabled

  Total Adapters:     2             S/W Version:  2.04   H/W Version:  1.0

  MAC Address:        00-00-E2-4D-8C-50
```



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```
Console Baud Rate : 19200
Console Timeout:    10(min)

Remote Management State:  Enabled
IP address:        10.34.92.161    Network mask:     255.255.255.0

 Dialing  VOIP call password: Disabled
 Outgoing PSTN call password: Disabled
 Incoming VOIP call password: Disabled
 Greeting playback           :Disabled
 Acceptable IP table         :Disabled

AV-3004>
```

- When the first upgrade is fail, please press 「F」to re-format the flash.
- After completing the setup and upgrade, please set the console baud rate of HyperTerminal to 19200 for using the altered configuration. After resetting, the system will be the upgraded version.

## *26. Change Password*

AV-3000 Series(FXO) VoIP Gateway provides the following methods for safety management. It includes login password, voipcall password, pstncall password, incoming ip call password. Login password is 6~15 digits and the others are 4 digits.

**✦【change password login】(default：password)**

**Example：**

```
AV-3004> change password login
Please enter old password  : ********
Please enter new password  : ********
Please re-enter new password  : ********
password has been successfully changed
AV-3004>
```

- Default login password is “password”. The new password can be numbers, letters, dashes or



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underscores, slashes, or colons) starting with a letter or a number and the password is 6~15 characters.

- System Administrator should keep a record of the new password in a safe place.
- If the new password for login to the system is missed or forgot, please contact Wistron Softel Inc. directly to solve the problem.

When someone dials Internet call, he needs to enter the password. (**default：0000**)

**✦【change password voipcall】**

**Example：**

```
AV-3004> change password voipcall
Please enter old (Dialing  VOIP call) password： ****
Please enter new (Dialing  VOIP call) password： ****
Please enter new (Dialing  VOIP call) password again to confirm： ****
The Dialing VOIP call password change successfully!
```

If you have set the voipcall password, you can choose to start the function or not. The command is as below：

**✦【enable password voipcall】：Enable voipcall password function**

**✦【disable password voipcall】：Disable voipcall password function**

- When user dials from PBX to FXO gateway, the system will ask for the password。

When someone dials PSTN call, he needs to enter the password .(**default：0000**)

**✦【change password pstncall】**

**Example：**

```
AV-3004> change password pstncall
Please enter old (Outgoing PSTN call) password： ****
Please enter new (Outgoing PSTN call) password： ****
```



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```
Please enter new (Outgoing PSTN call) password again to confirm： ****
The Outgoing PSTN call password change successfully!
AV-3004>
```

If you have set the pstncall password, you can choose to start the function or not. The command is as below：

✦【enable password pstncall】：Enable pstncall password function

✦【disable password pstncall】：Disable pstncall password function

When the dialed number from FXO is outgoing PSTN call, the system will ask for the password

When VoIP call comes from Internet, the caller needs to enter the password..(default：0000)

✦【change password incomingipcall】

**Example：**

```
AV-3004> change password incomingipcall
Please enter old (Incoming VOIP call) password： ****
Please enter new (Incoming VOIP call) password： ****
Please enter new (Incoming VOIP call) password again to confirm： ****
The Incoming VOIP call password change successfully!
AV-3004>
```

If you have set the incominipcall password, you can choose to start the function or not. The command is as below：

✦【enable password incomingipcall】：Enable incomingipcall password function

✦【disable password incomingipcall】：Disable incomingipcall password function

When there is incoming VoIP call from Internet to FXO gateway, the system will ask for the password.



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## *27. Greeting Function Setting*

You can record your sound to be the greeting. If you would like to record the greeting, please use the phone to dial to the FXO voice port and then press the『***』on the touch-tone phone to start the recording. After recording the greeting, you can choose to enable the function or not. The commands are as below:

### ✦【enable greeting】

### Example：

```
AV-3004>enable greeting
Greeting playback：  Enabled
AV-3004>
```

### ✦【disable greeting】

### Example：

```
AV-3004> disable greeting
Greeting playback：   Disabled
AV-3004>
```



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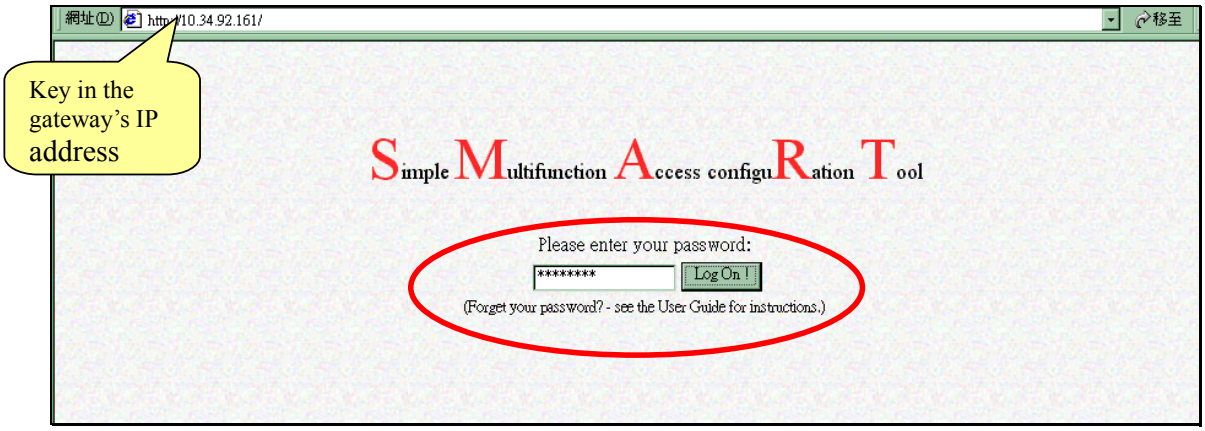
# *Chapter 4 Configuration(Web-Based)*

## *1. Login to the system(Web-Based)*

Type in the IP address into any Web browser. (For example：http://10.34.92.161)

**Default password：password**



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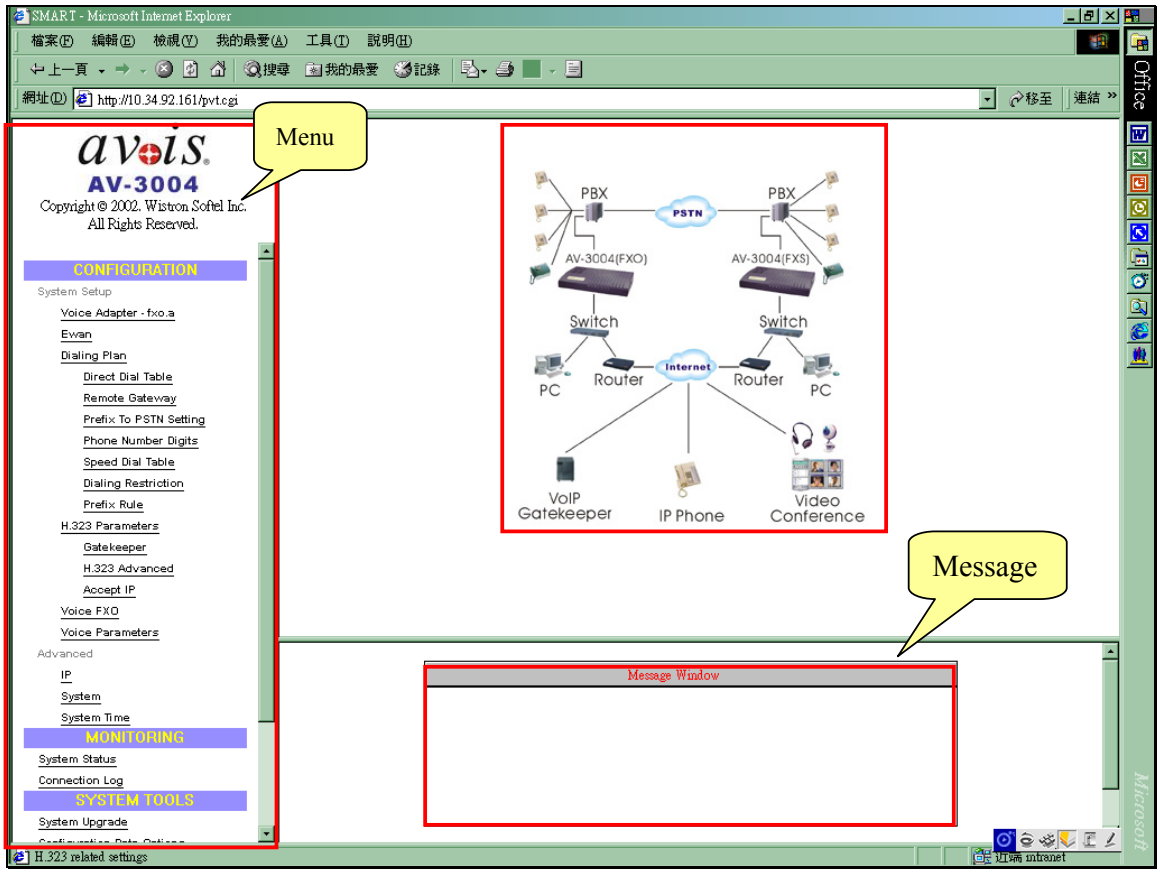
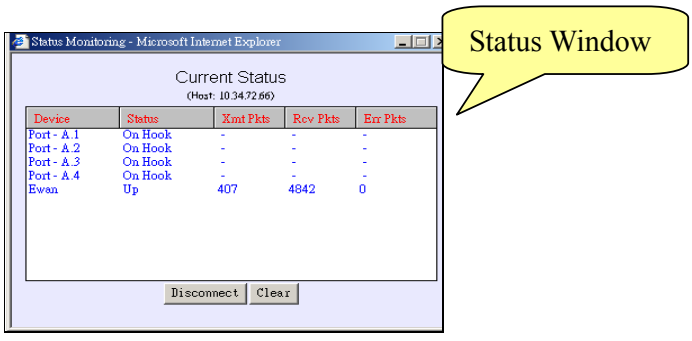
## *2.Login to the Main Page*



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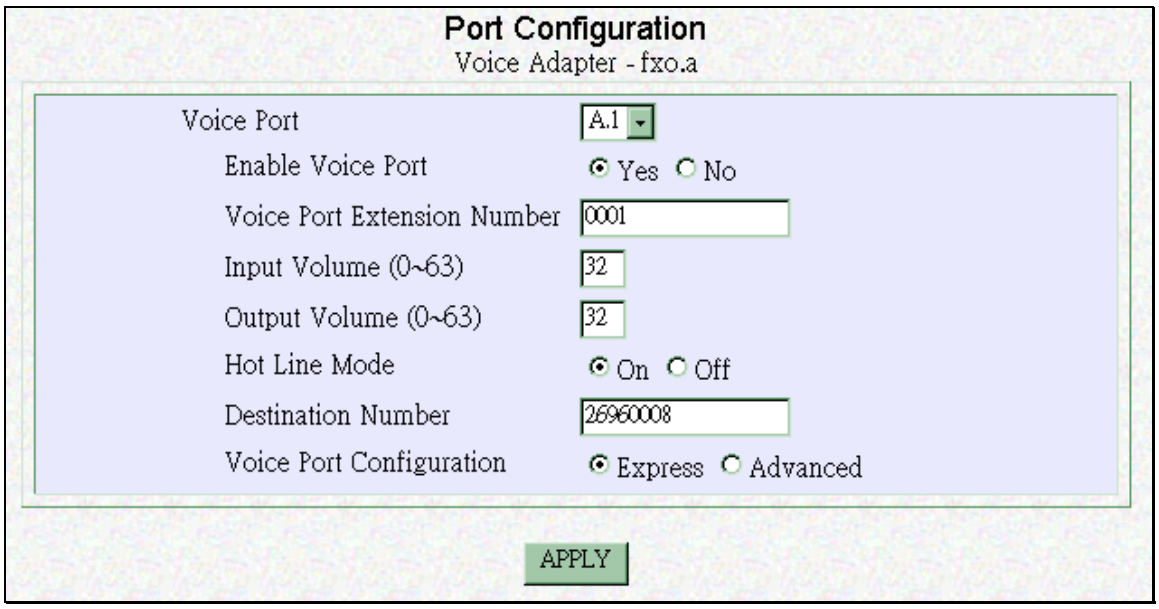
## *3. Voice Port Setting*

Setup parameters of all POTS ports. This will assign a number and turn on that port. Volume level and type of codec can be configured in this function. Meantime, FXO Gateway provides the『Hot Line』function. You can set each voice port with a designated hot line number. When the Gateway receives a call from PSTN, it will dial the hot line number automatically. For example, you set voice port a.1 with a hot line number,『26960008』. When a dialer makes a call from PSTN to port a.1 of the Gateway, Gateway will dial『26960008』automatically for the dialer.

**Hot line number should be the direct dial number or the number of one routeset which is defined by the Gatekeeper.**

Click the 『**Voice Adapter**』in configuration section.




- **Enable Voice Port**：To decide the port is enable or not.
- **Voice Port Extension Number**：The set makes the manager easier to know what port connects to what telephone number/extension number. There is no effective towards configuration.
- **Input Volume(0~63):** You can adjust the level based on the property of your telephone. We recommend the volume level to set on 32.
- **Output Volume(0~63):** You can adjust the level based on the property of your telephone. We recommend the volume level to set on 32.



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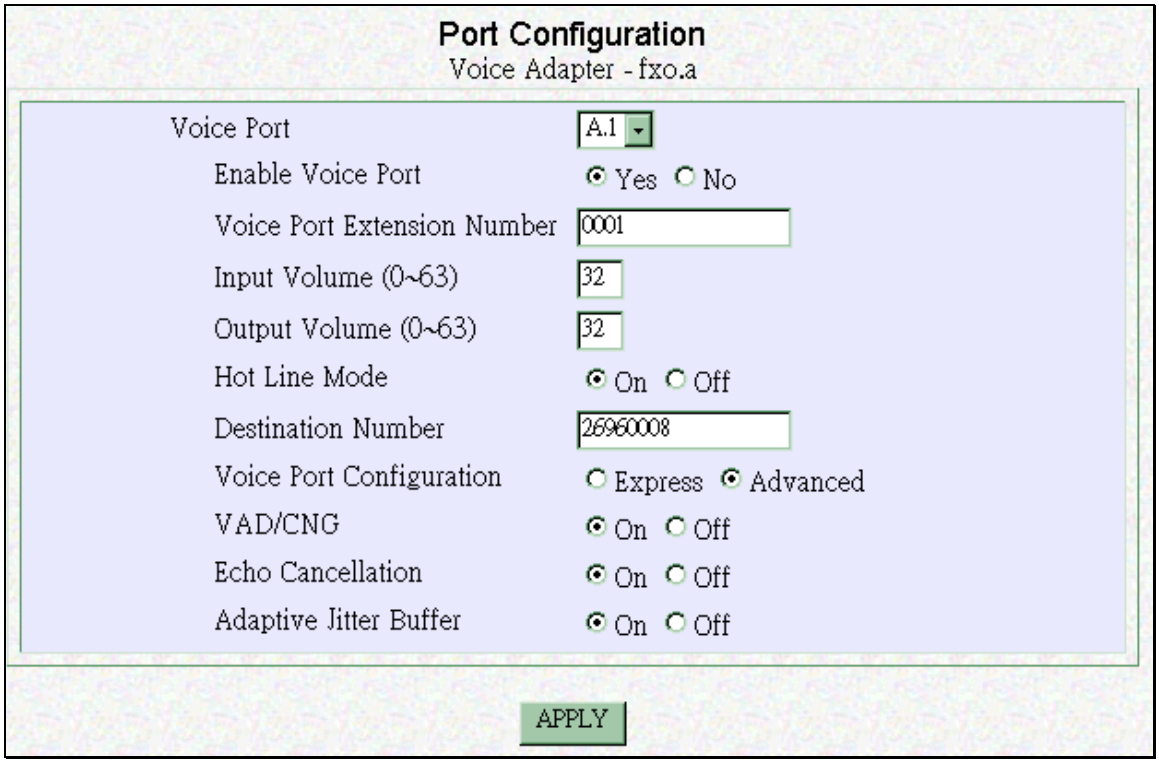
- **Hot Line Mode:** You can enable or disable the hoe line function. If you enable the function , please enter the hot line number in the following field.

- **Voice Port Configuration**：You can choose 「**Default**」 in common situation. If you need to adjust the voice volume or VAD/CND or Echo Cancellation or Adaptive Jitter Buffer, you have to choose 「**Advanced**」.The page is the following chart：




- **VAD/CNG**：Voice Activity Detection & Comfort Noise Generation. It is to set the communication quality of the port.

- **Echo Cancellation**：Echo cancellation

- **Adaptive Jitter Buffer**：When the Internet is not stable, each packet may not arrive in a fixed time period or in order. Choosing 「**Adaptive Jitter Buffer**」 can save the number of packets into a received buffer and then playback in fixed period. It can keep the communication quality in a stable status.



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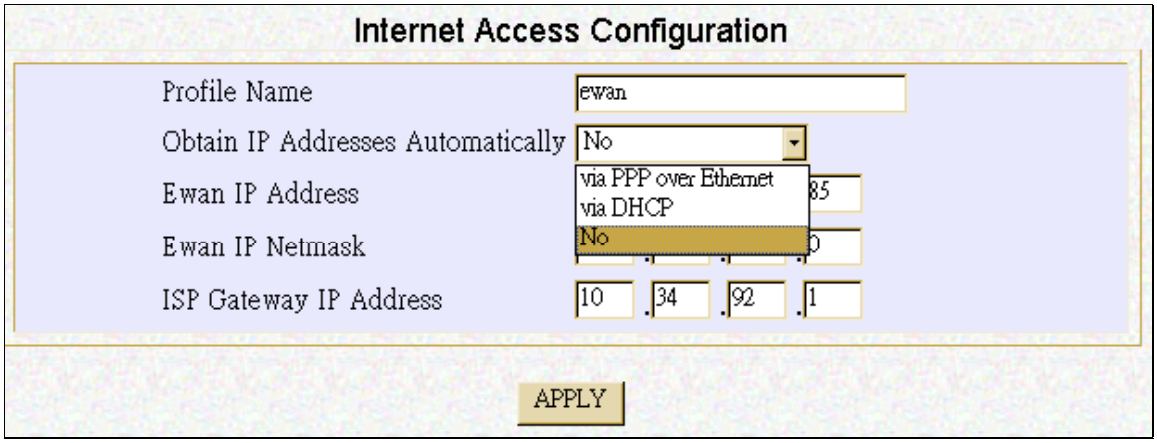
## *4. IP address Setting*

The AV-3000 serial supports multiple IP configuration, for example, manual, DHCP, and PPPoE.

Please click the 「**Ewan**」 in Configuration section.




In the 「Internet Access Configuration」, there is the item called 「**Obtain IP address Automatically**」. You can set the IP address obtained by three methods：

- **No**：When you apply a exclusive line service from ISP company, it will offer you a real fixed IP. Thus, you can choose 「**No**」 to take the real IP to be the IP address.
- **Via DHCP**：When your company has branch offices or subsidiaries and you uses DHCP server, you can start the DHCP Client function to get the virtual IP. Compatible with Gatekeeper, you can communicate with other gateways.
- **Via PPPoE**：When you apply the ADSL service from a ISP company, it doesn't provide you a fixed IP. Therefore, we recommend to start PPPoE function and compatible with Gatekeeper.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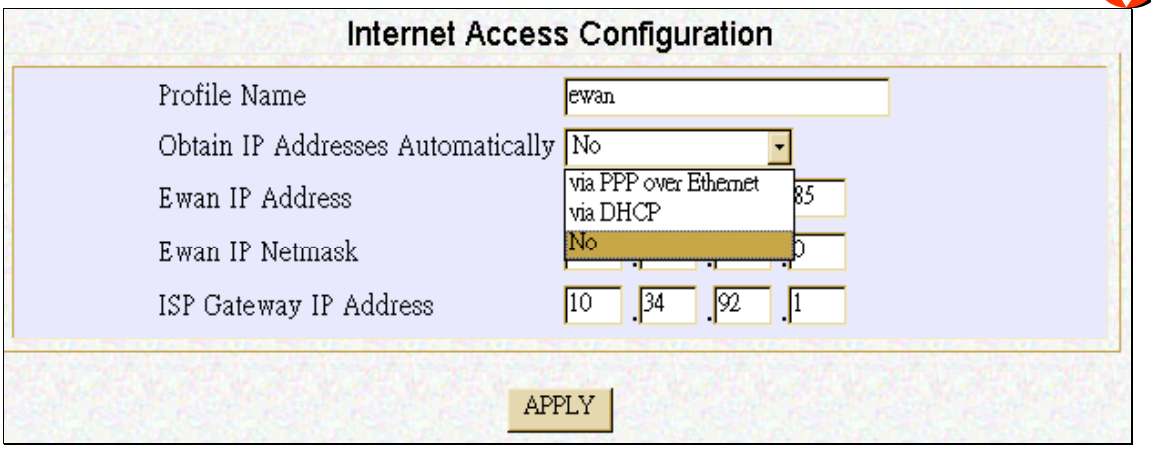
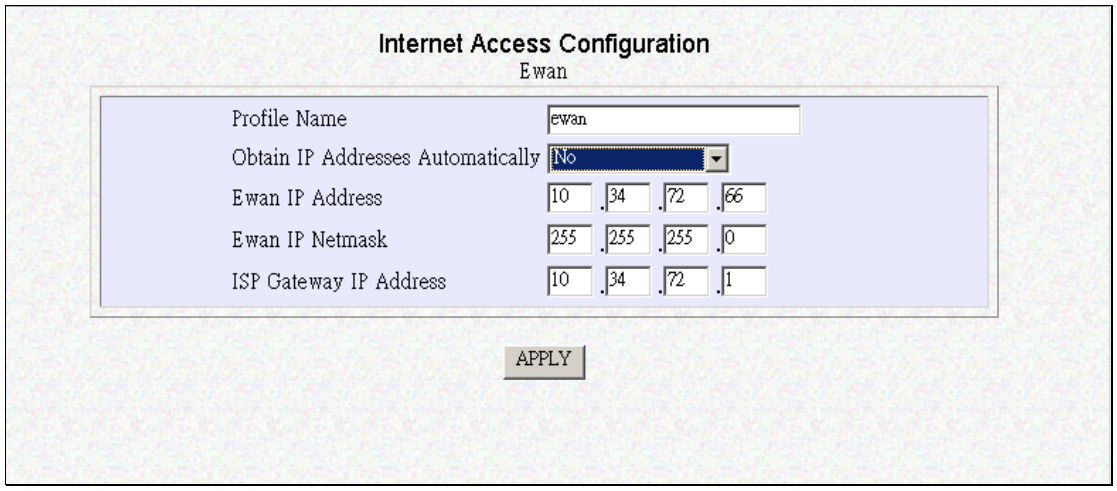



## *4.1 Fixed IP setup*

To choose 「**No**」item in 「**Obtain IP Address Automatically**」, you can set up your fixed IP address. Please key in the Gateway's IP address, IP Netmask. Then press 「**Apply**」.

- **Ewan IP address**：Key in your IP address.
- **Ewan IP Netmask**：Key in IP Netmask
- **ISP Gateway IP address**： Key in the remote Gateway's IP address which your Gateway would like to communicate with.



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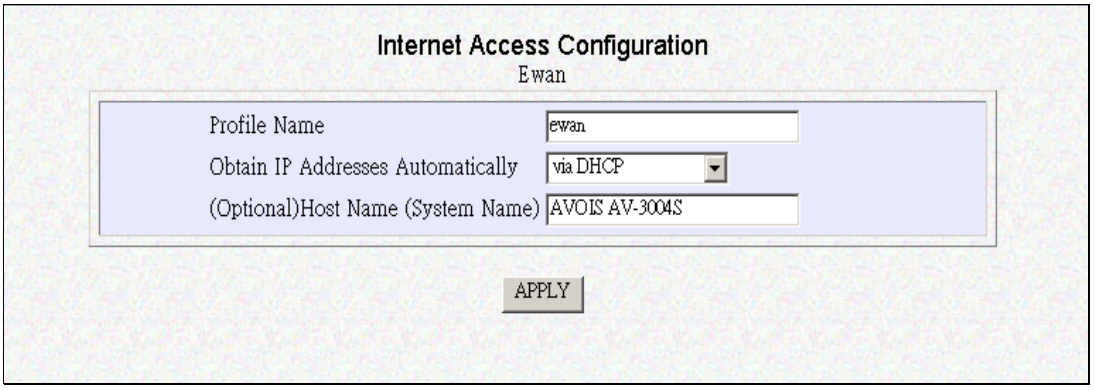
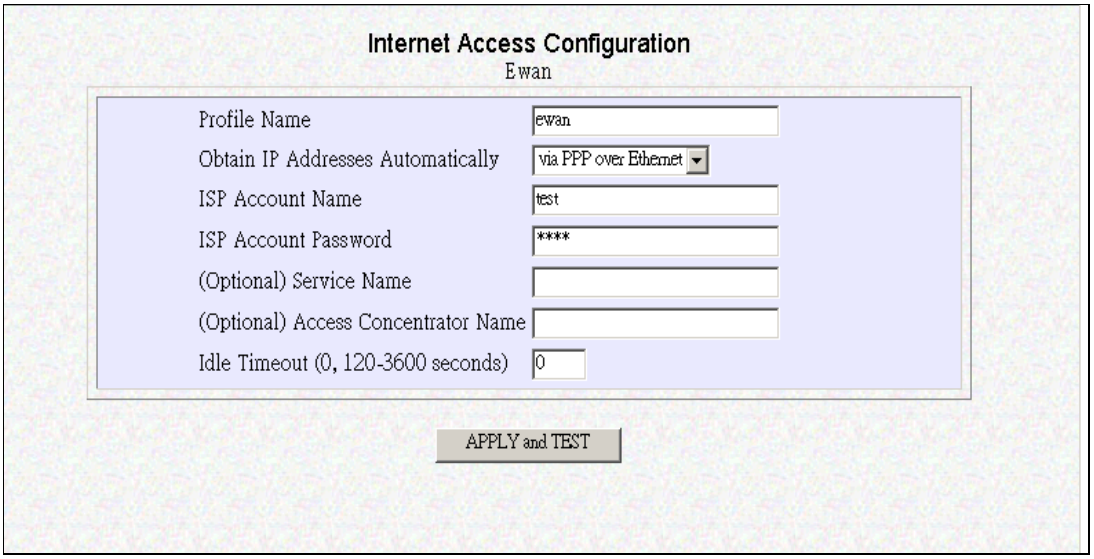
## 4.2 IP setup via DHCP




- (Optional)Host Name(System Name)：Key in the host name.

## 4.3 IP setup via PPPoE




- **ISP Account name & Password**：Obtained from ISP company.
- **(Optional)Service Name**：The service level that you apply from ISP company.(Service name provided by ISP)
- (Optional) Access Concentrator Name：Provided by ISP.
- **Idle Timeout**：You can set the timer to disconnect the call when the Gateway.is idle.



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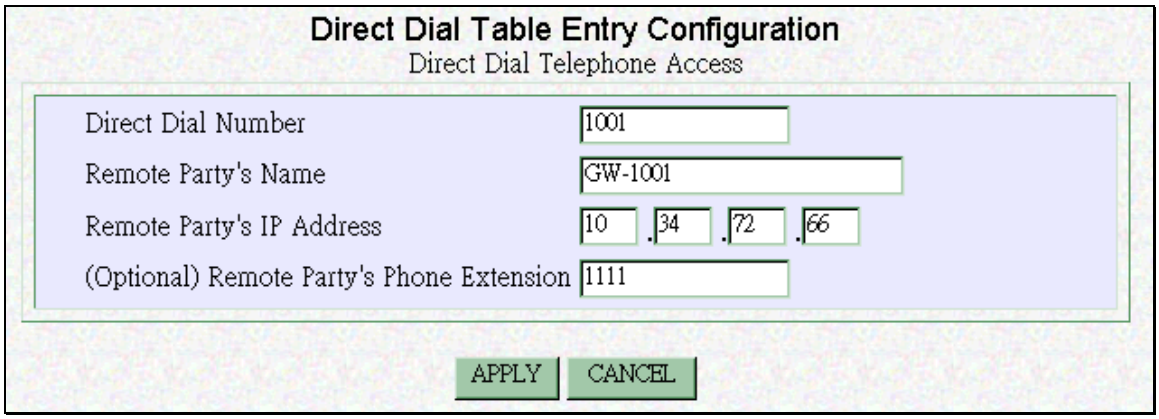
- Idle timout =0：**The Gateway is still in connection status even the Gateway is idle.**
- Idle timeout >0：**The Gateway will disconnect automatically when the time exceeds the idle time which you set and the Gateway will connect automatically when you dial next time.**

# 5. Dial Plan Setting

## 5.1 Direct Dial Table Setting

Set up the DirectDial Table can make you easier to dial to other gateway as the same as dialing the speeddial number on convention phone. You can assign a number to be the designated gateway's code. Click the 「**Direct Dial Table**」 in the Dialing Plan section of Configuration：




- **Direct Dial Number**：Set the new number.
- **Remote Party's Name**：The remote party's name.
- **Remove Party's IP Address**：IP Address of remove Party.
- (Optional)Remote Part's Phone Extension：If an Extension Number is needed.

The Direct Dial table will not work under Gatekeeper's mode is Static unless you enable the Direct Dial Prefix function.

The following table is the DirectDial Table Summary which you set in the previous table



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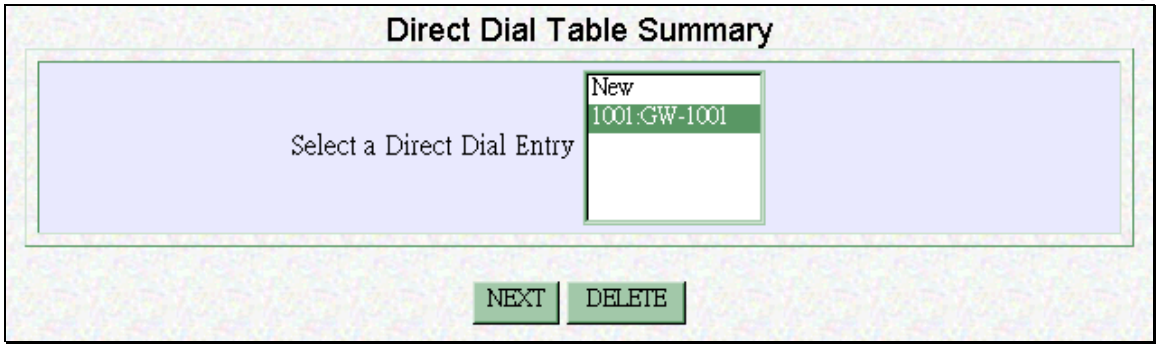


- Add or alter the number, please select the item or choose 『New』 and then press 『NEXT』.
- If you would like to delete the number, please choose the item and then press 『DELETE』.

If the Gateway doesn't register to a Gatekeeper, the gateway should set the direct dial table to communicate with other Gateway.

When the Gateway registers to the Gatekeeper, the all calls will be controlled by Gatekeeper. Therefore, the original directdial table set by Gateway will be invalid. We recommend you to enable the 『Direct Dial Prefix』 function to make the original directdial table set by Gateway workable. The more details of 『Direct Dial Prefix』, please refer to Section5.5.4. Meantime, we also recommend you to enable the function of all Gateways which is listed on the directdial table.

## *5.2 Remote Gateway Code Setting*

Please choose 『Remote Gateway』 in Dialing Plan section of Configuration.

To simplify the operation of FXO dialing process, you can set up one code for the remote gateway IP address. For example, the IP address of remote gateway is 169.23.62.43, you can use 11 to stand for the remote gateway. You just need to dial 11 and then it will connect to the remote gateway.



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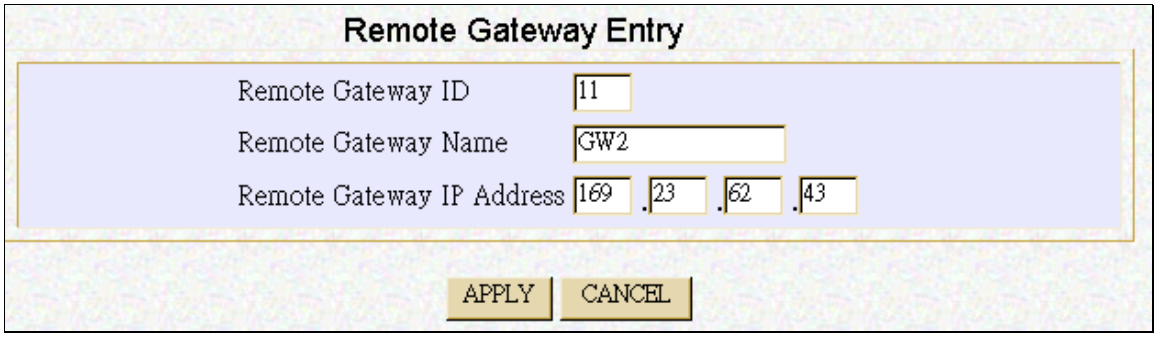
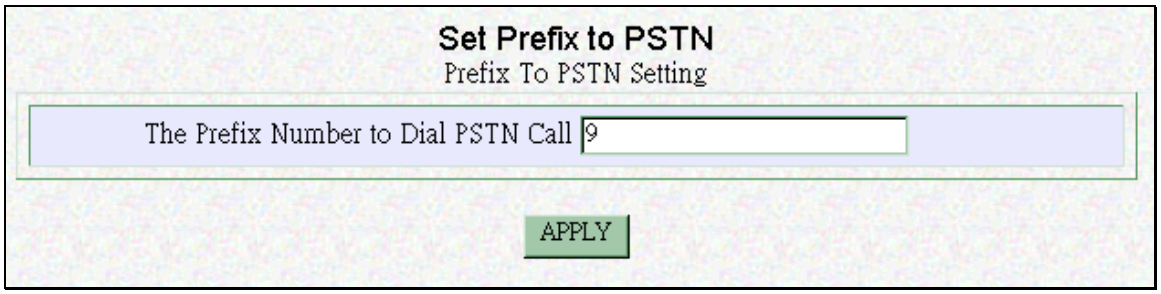



- **Remote Gateway ID**：You can set the code from 00~99 to be the remote gateway's ID.
- **Remote Gateway name**：The remote Gateway's name.
- **Remote Gateway IP Address**：IP address of the remote gateway.

## *5.3 Prefix Number Setting*

When you want to dial an outgoing call through the internal line of PBX, the prefix number for outgoing call should be added first. The prefix setting is to make Gateway to know what the prefix number of PBX is. Therefore, the Gateway will add the prefix number automatically when you dial the outgoing call. The digits for prefix can be 1~3 digit. You can add the comma『,』on behalf of the interval of pause caused by dialing the prefix number(approx. 1 sec).

Please click the 「**Prefix to PSTN Setting**」 in Dialing Plan of Configuration.




The prefix number can be set from 1 digit to 3 digits.



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## 5.4 Phone Number Digits Setting

When the Gateway connects to PBX, you can set the phone number digits for Gateway to judge the call is internal call or outgoing call. For example as below, you set the minimum number of digits for the outgoing call to『6』, the maximum number of digits for the internal call to『4』. When you dial a number which length is equal/larger than 6 digit, the Gateway will take it to be an outgoing call. Therefore, Gateway will dial the outgoing prefix first and then dial the number which you dial.

Please click 「**Phone Number Digits**」.

Set number of digits
Phone Number Digits
PBX Extension Number Digits:Maximum Digits: 4
PSTN Number Digits :Minumum Digits: 6
APPLY

- **PBX Extension Number Digits**： Maximum Digits：The maximum number setup of PBX extension number digits.
- **PSTN Numbers Digits**：Minimum：The minimum number setup of PSTN number digits.

## 5.5 Speeddail Table Setting

The function can make you to set the speeddial number to substitute for the destination phone number. It simplifies the complicated dialing plan. FXO VoIP Gateway provides you to set 16 sets of speeddial number. If the Gateway registers to a Gatekeeper, it will transmit the destination phone number to the Gatekeeper. If not, the speeddial number should be the direct dial number which have been set.

If you would like to dial the speeddial number, please press the『*』button on the touch-tone phone first.

Click the 「**Speed Dial Table**」 in the Dialing Plan section of Configuration：



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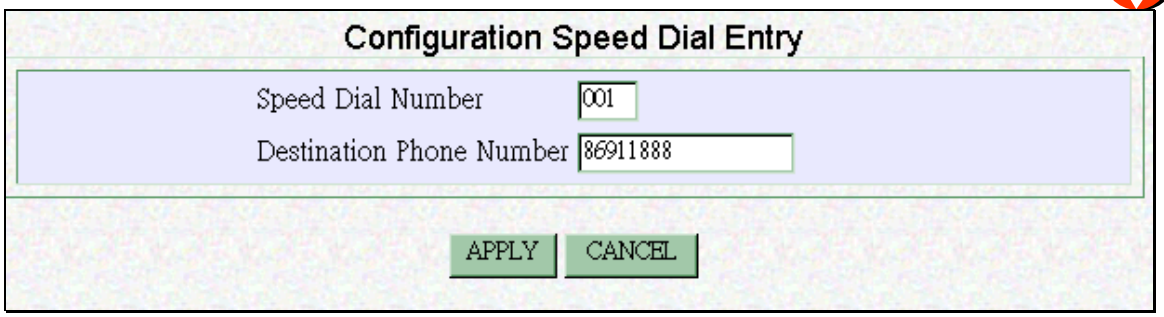
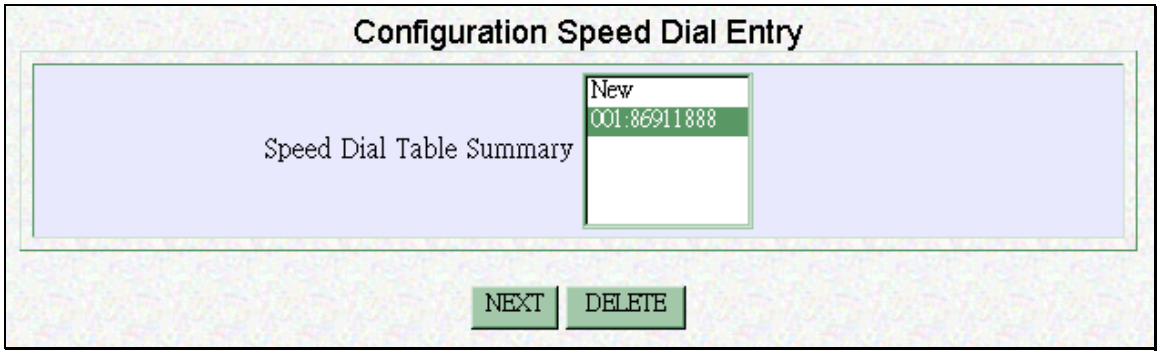



- **SpeedDial Number**：Set the speeddail number.
- **Destination Phone Number:** Destination phone number.

The following table is the SpeedDial Table Summary which you set in the previous table




## *5.6 Dialing Restriction Setting*

This function can make you set up which call number may not be called in or out. There is five sets of call numbers which you can restrict in the gateway. The call numbers can be restricted on 「Allow」or 「Deny」. The former will allow the call number which has been set to be called out and the later will deny the call number which has been set to be called out. Please double click **『Dialing Restriction』** in the configuration section.



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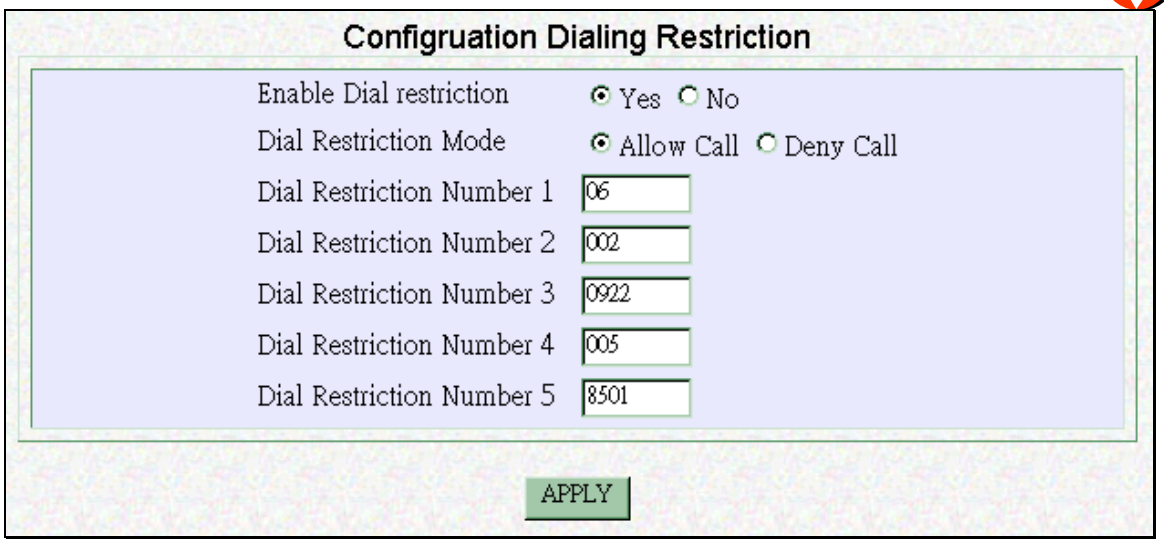
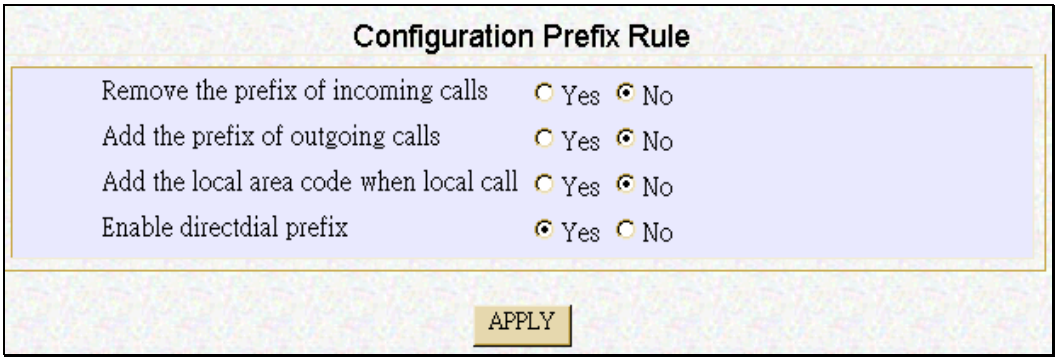



- **Enable Dial Restriction**：Enable dialing restriction or not.
- **Dial Restriction Mode**：Choose the restriction mode to『Allow』or『Deny』.
- **Dial Restriction Number 1~5**：Fill in the restricted number(The digits can be up to 7 digits). For example, 0937, 006, 8691176…etc.

## *5.7 Prefix Rule Setting*

When the Gateway registers to the Gatekeeper, the number of the incoming call and outgoing call should be conformed to dial plan of Gatekeeper. Therefore, the prefix which is defined by Gatekeeper will be added to the number. avois Gateway provides the function to let the Gateway has the capability to deal with the prefix.

The prefix rule of this function can be divided into 4 forms：「Incoming call prefix」、「Outgoing call prefix」、「local area code prefix」、「direct all prefix」。The meanings are explained as below：



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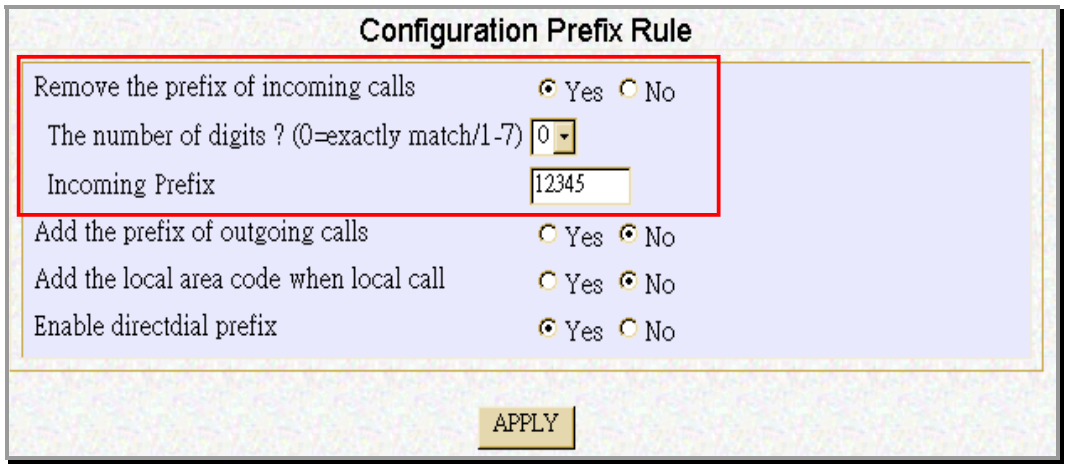
## *5.7.1 Remove the prefix of incoming calls*

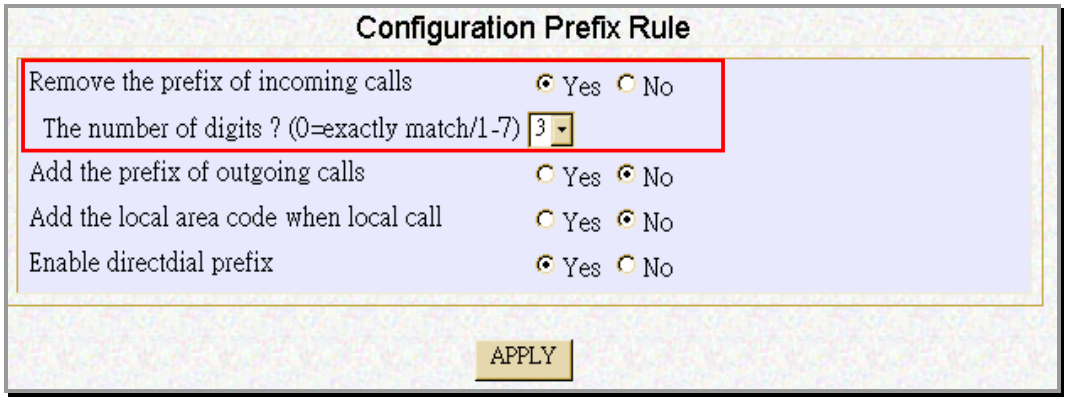
When the gateway receives the incoming call, it may include other numbers or prefix added by the gatekeeper (for example, E.164 Alias Name). Due to such numbers may not be found at the Gateway Number Plan, the gateway may not understand. Therefore, you can enable the 「Remove the prefix of incoming calls」to delete the incoming prefix automatically.

Please press『Yes』item of the『Remove the prefix of incoming calls』and the window will be as below:




- 0：Remove the prefix which is exactly matched to your setting. You have to fill in the prefix which you want to remove in『Incoming Prefix』.
- Incoming Prefix：Fill in the prefix which you want to remove.

When you enter the number between 1~7, that indicates the digits of the prefix which you want to remove. The window will be as below:



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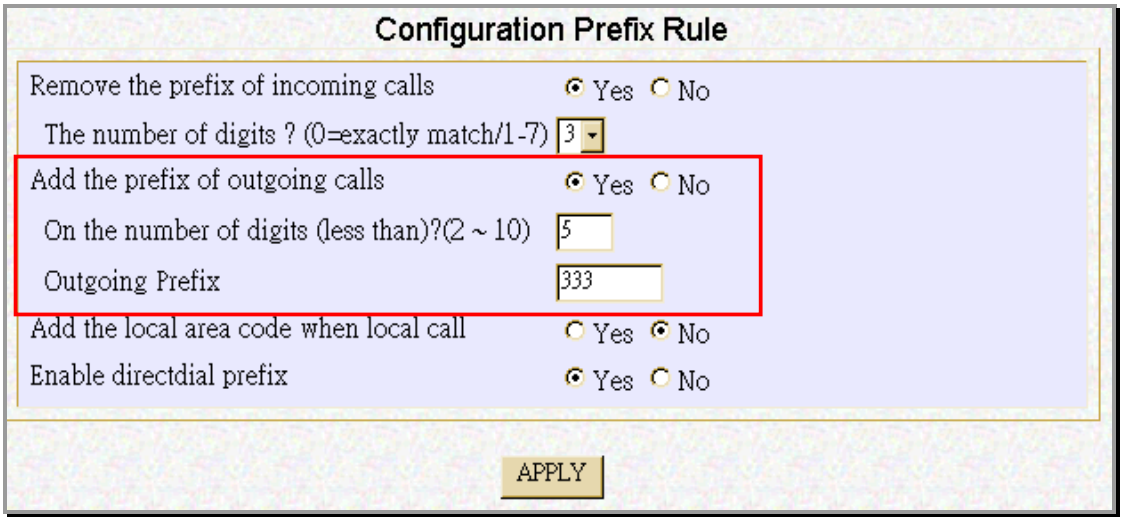
- 1-7：The digits which you want to remove the prefix of the incoming call. For example as above window, if you fill in「3」, Gateway will remove the former 3 digits of the prefix of the incoming call.

## *5.7.2 Add the prefix of outgoing calls*

When the Gatekeeper receives a call from Gateway, it has to decide to transfer the call to which destination(Gateway). For some dial plan of the intranet call, the Gatekeeper transfers the call based on the prefix number of the Gateway. The prefix number of the destination will be added on the outgoing call automatically for the sake of not changing the dial habit of the user. You can enable the『Add prefix on the outgoing call』. When the digit of the outgoing call is less than the length that has been set(intranet call), the Gateway will add the prefix number on the outgoing call automatically. On the other hand, if the digit is larger than the length that has been set(internet call), the Gateway will not add the prefix number on it.




- **The number of digits(less than)？(2-10)：**When the digits of the outgoing call is less than length of setting, the Gateway will add the prefix on the outgoing call. For example, if you dial a number,『2001』which is less than 5 digits, the Gateway will add the prefix on it. The transmitted number will be『3332001』.If you dial a number,『86911689』 which is larger 5 digits, the prefix will not be added.

- **Outgoing Prefix**：The prefix which you want to add on the outgoing call.

## *5.7.3 Add the area code/country code*

Enable the function can make the gateway to recognize the outgoing call is toll call or local call based on the



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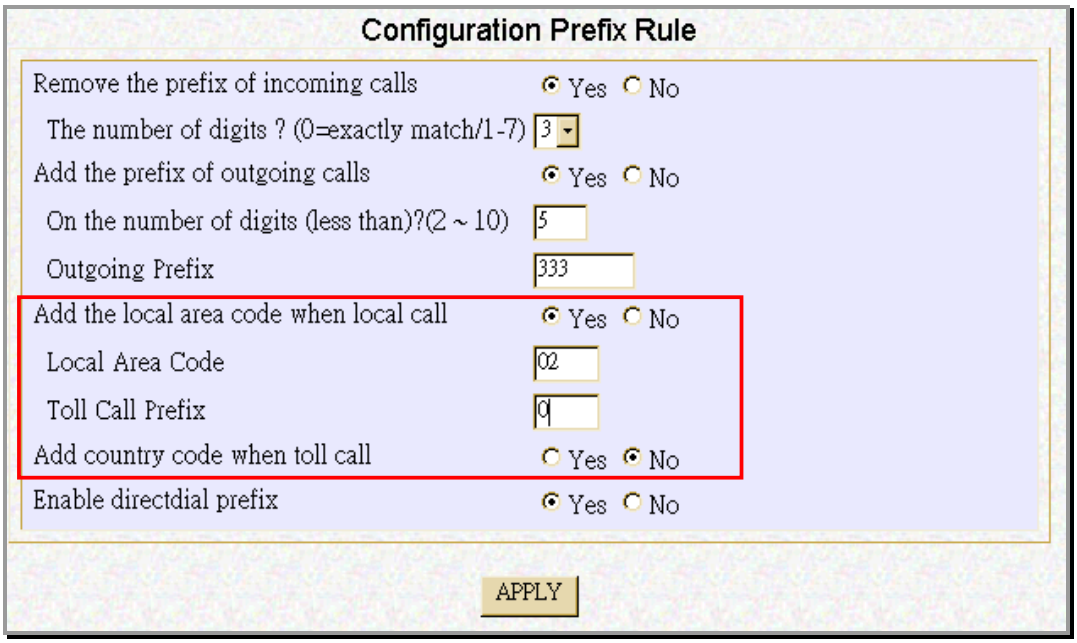
prefix number of the call.

When the『local area code』function is enabled, you can choose to enable the『Country code』function. Gateway will judge if it is needed to add the country code on the outgoing call.




- **Local Area Code**：Local area code(Limit to 4 digits)
- **Toll Call Prefix**：Toll call prefix(limit to 4digits)
- Gateway will judge the call is local area call or toll call based on the dialed number. For example, the first digit of the number is not『0』, the call is local area call.

When to add a local area code：When the number is conform to the toll call prefix, the call is toll call and the prefix which you set will not be added. Otherwise, it is local area call and the prefix will be added automatically.

『Country code』function will be workable under enabling adding a local area code.



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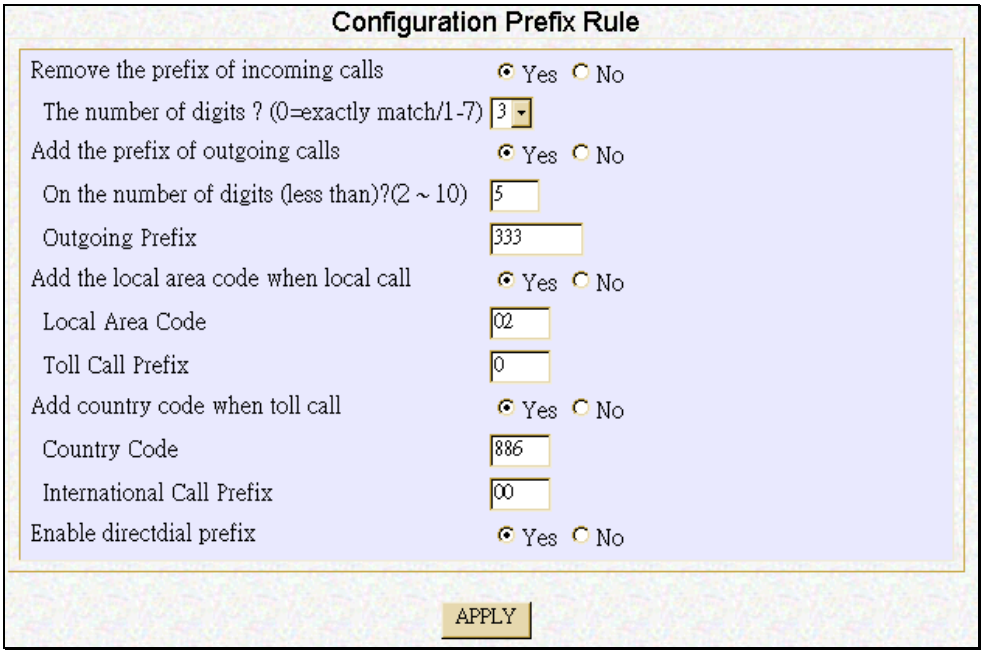


- **Country Code**：Country code(Limit to 4 digits).
- **International Call Prefix**：International call prefix(Limit to 4 digits). The Gateway will judge the call is international call or not based on the outgoing call number. For example, if the former digits is not『00』, the Gateway will add the country code on the outgoing call automatically.

When to add the country code：When the number is conform to the International call prefix, the call is international call and the country code will not be added. Otherwise, it is toll call and the country code will be added automatically.

## *5.7.4 Enable DirectDial Prefix*

When the gateway registers to the gatekeeper, the original direcdial table to other gateway may not work. To solve this problem, you can enable『Directdial prefix』function. Gateway will judge the call should be handled by Gatekeeper or to deal by itself with directdial table. To ensure the directdial table is workable, we recommend you to enable the『DirectDial Prefix』function of all Gateways.


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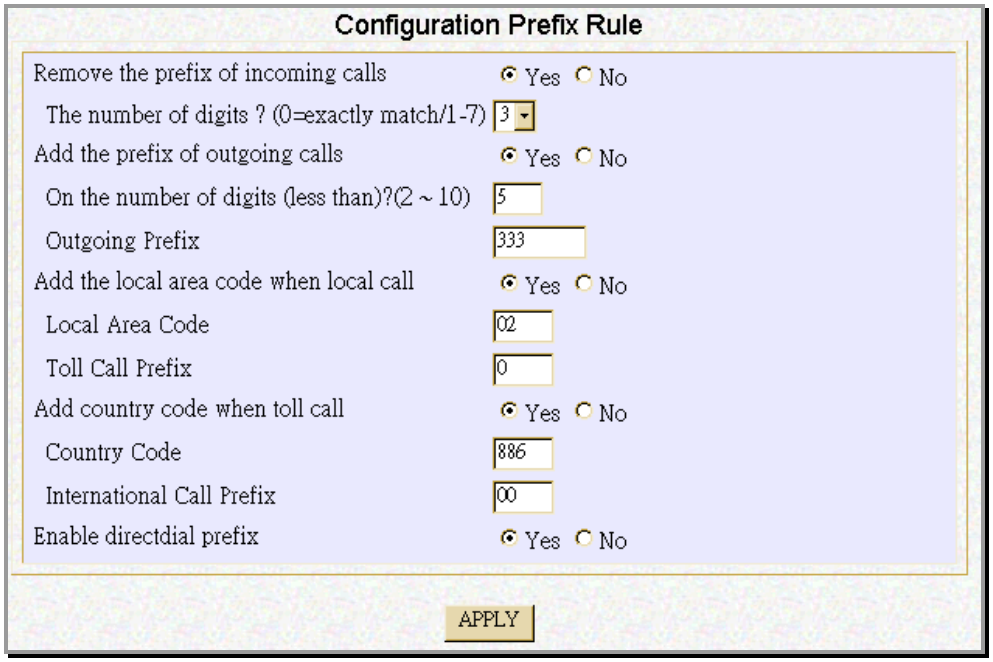


We recommend the all Gateways listed in the Direct Dial table enable the function.

# 6. H.323 Parameters Setting

## 6.1 Gatkeeper Mode Setting-off

The Gateway registering to a Gatekeeper can make you easily to manage the Gateways. For example, dialing restriction, group management, billing system…etc. You can assign the other two Gatekeepers to be the Gateway's alternate Gatekeeper. When the Gatekeeper which the Gateway registers is unable to work, the Gateway will register to the alternate Gatekeeper automatically. In addition, if the Gateway registers to the Gatekeeper successfully, the Gatekeeper will also transmit its AGK's IP addresses to the Gateway.

The way for Gateway to register to a Gatekeeper can be by port and by Gateway. The introduction is as below:

Please click the 「Gatekeeper」 in 『H.323 Parameters』



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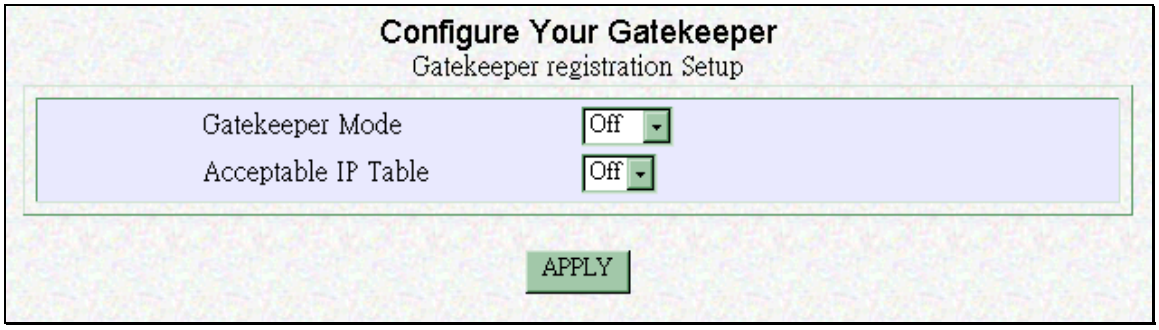
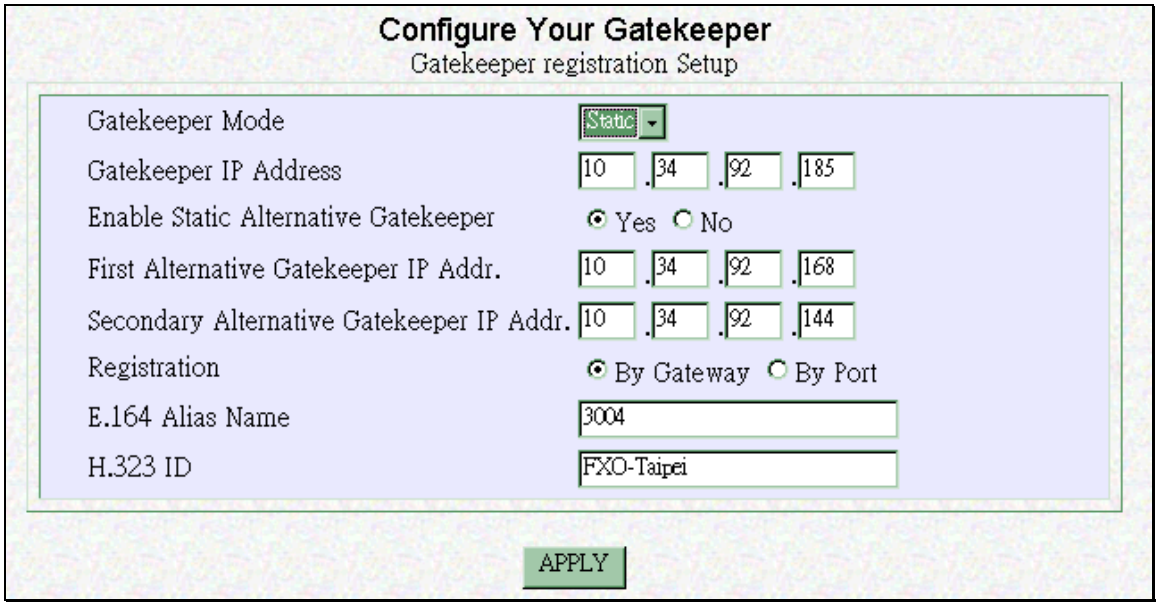



- **Gatekeeper Mode(Off)：**If you don't use Gatekeeper, you can set the mode to 「**off**」and then press 「**APPLY**」. You can see the successful message from 「**Message Window**」.
- **Acceptable IP Table：**If you have set the acceptable IP table, you can choose to enable the function or not.

## *6.2 Gatekeeper Mode Setting-Static*

### *6.2.1 Gatekeeper mode-By Gateway*

If you choose the Gatekeeper mode to static, the page is as below：




- **Gatekeeper IP Address：**Gatekeeper IP address.
- Enable Static Alternative Gatekeeper: Enable Static Alternative Gatekeeper or not.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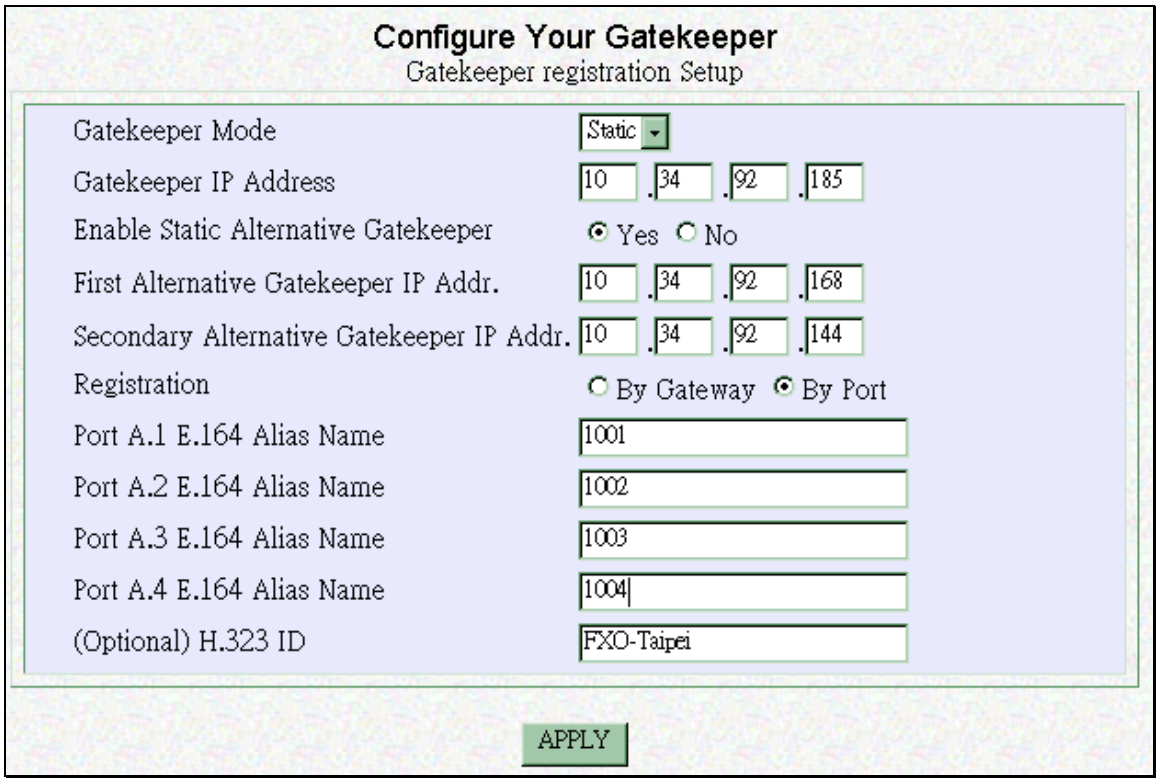
- First Alternative Gatekeeper IP Addr.: Fill in the first SGK's IP address.
- Second Alternative Gatekeeper IP Addr.: Fill in the second SGK's IP address.
- **Registration**：The way to register to a Gatekeeper can be divided into two types: Gateway and Port. If you choose『By Gateway』, you have to fill in the「E.164 Alias Name」or「H.323ID」.
- **E.164 Alias Name**：E.164 alias name is instituted by ITU-T. Generally, it is the telephone number. Please fill in the E.164 alias name which is issued by Administrator.
- **H.323 ID**：It can be any strings. For example, the email address or domain name.

When the Gateway registers to Gatekeeper by『Gateway』,it can use『E.164 alias name』and『H.323 ID』 or one of them for registration. However, one of them should be chosen at least. The E.164 alias name and H.323 ID is offered by Gatekeeper

## *6.2.2 Gatekeeper mode-By Port*

You can set the Gatekeeper mode to『Static』and register to it by『Port』.



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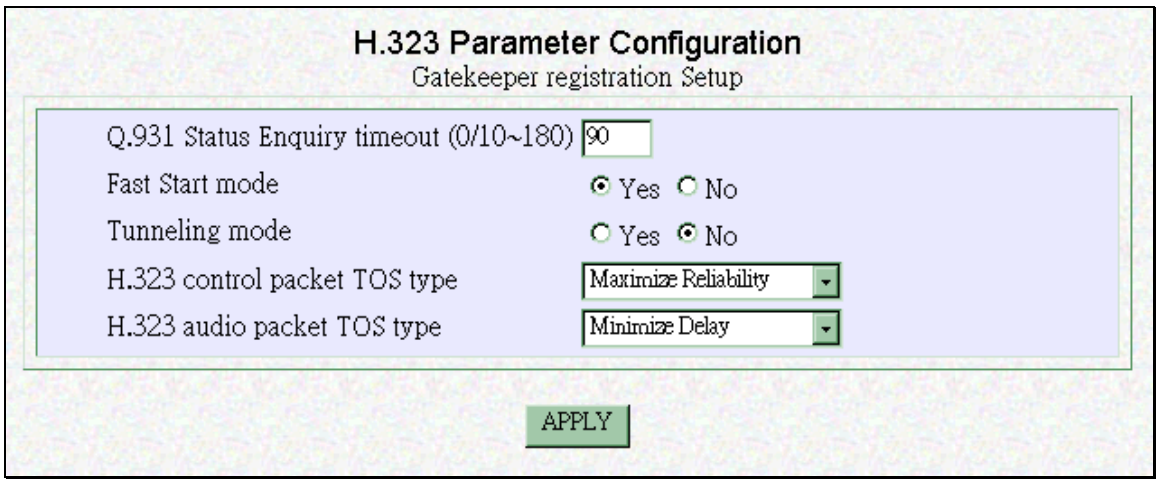
- **Gatekeeper IP Address**：Gatekeeper IP address.
- **Registration**：The way to register to a Gatekeeper can be divided into two types: Gateway and Port. If you choose『By port』, you have to fill in the「E.164 Alias Name」or「H.323ID」.
- **E.164 Alias Name**：E.164 alias name is instituted by ITU-T. Generally, it is the telephone number. Please fill in the E.164 alias name which is issued by Administrator.
- **(Optional)H.323 ID**：It can be any strings. For example, the email address or domain name.

When the Gateway registers to Gatekeeper by『port』, the E.164 alias name of each port should be input and the H.323 ID can be input or not based on your choice.

## *6.3 H.323 Advanced Setting*

The advance setting is for H.323 protocol. For example, you can choose the different TOS(Type of Service) to transmit the control packet or audio packet. Or enabling Q.931 status enquiry function, Fast start function, Tunneling function…etc.




- **Q.931 Status Enquiry timeout (0/10-180)**：If there is something wrong in the Internet or the remote gateway has no response, you can set the time expiration to close the call.(0：disable)
- **Fast start mode**：If the remote Gateway supports the Fast Start function , you can enable Fast Start mode function. It can diminish the connection time.
- **Tunneling mode**：If the remote Gateway supports Tunneling function, you can enable Tunneling mode function. It can diminish the resource that setting up H.245 logical tunnel needs. (H.245：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Decide which codec to use and the major and slave.).

- **H.323 control packet TOS Type**：Set the TOS type for transmitting the control packet. We recommend you to set at『2』Maximize Reliability. When the router supports the TOS function and transmits the packets based on the designated TOS, the transmission quality will be better.

  - **Normal Service**：**Normal service.**
  - Minimize Monetary Cost：**Ask the router to transmit the packet based on the minimize monetary cost.**
  - Maximize Reliability：**Ask the router to transmit the packet based on the maximize reliability.**
  - Maximize Throughput：**Ask the router to transmit the packet based on the maximize throughput per period.**
  - Minimize Delay：**Ask the router to transmit the packet based on the maximize reliability.**

- **H.323 audio packet TOS Type**：We recommend you to set at『4』Minimize Delay. When the router supports the TOS function and transmits the packets based on the designated TOS, the transmission quality will be better.

When all the routers in the path support TOS, we recommend you to set up the related TOS function.

AV-3000 series Gateway will support alternative Gatekeeper; the Gateway does not require any setting from the user. As soon as the Gateway registers to a Gatekeeper and the Gatekeeper have an Alternative Gatekeeper, Gateway will register the Alternative Gatekeeper automatically.

## *6.4 Accept IP Setting*

The 「Accept IP Table」is one of the most important functions of Gateway. You can set the acceptable IP entry. Please note if the Gateway registers to a Gatekeeper, the accept IP table will become unworkable. Please press **【Accept IP】.** Please note if you set the accept IP table, you can decide to enable or disable it. However, if you would like to enable the function, the Gatekeeper mode should be off. Therefore, please go to『Gatekeeper』in the 『H.323 Parameters』and choose the Gatekeeper mode to off. And then please select the 『Acceptable IP Table』to『On』



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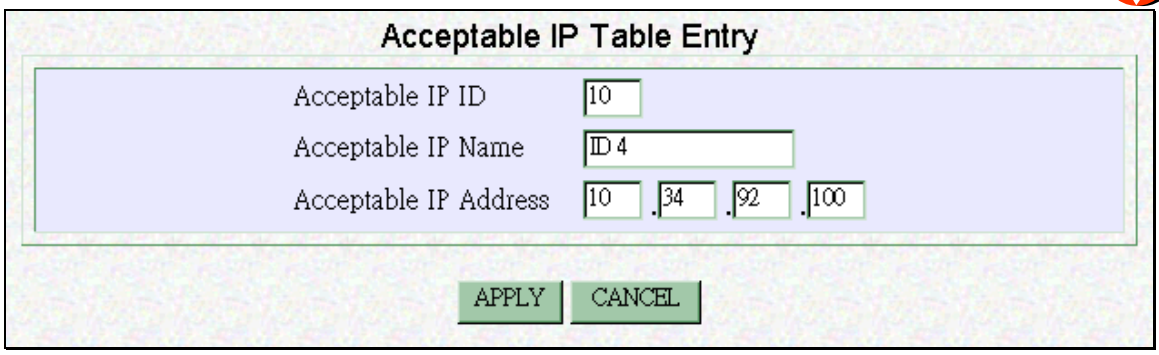


- **Acceptable IP ID**：You can set the acceptable IP ID. (From 00~99)
- **Acceptable IP Name**：Key in the acceptable IP address.
- **Acceptable IP Address**：Key in your acceptable IP address.

When the Gatekeeper mode is static, the Acceptable IP Table will be invalid.

## *7. Voice FXO Setting*

Voice FXO settings include ringback tone off detection, silence detection, Caller ID, ANI, incoming call from network/analog side setting, follow-on call and specific DTMF tone detection. The detailed introductions are as below.

### *7.1 Ringback Tone off Detection*

When the function is enabled, the Gateway will not report back the call is in connection status until the remote endpoint has picked up the phone. If the call of the endpoint is busy, the Gateway will disconnect the call automatically. This function can be the tool of billing system for ITSP/ISP/Telecom company.

### *7.2 Silence Detection Setting*

Gateway will detect the level of silence between the caller and callee. When the Gateway detects the duration for silence exceeding the set time, it will disconnect the call automatically.

### *7.3 Caller ID Setting*

You can enable this function to let Gateway to detect the caller ID information from the caller. The caller ID type can be divided into FSK(Frequency Shift Keying) and DTMF(Dual Tone Multi-Frequency). This function can be



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a auxiliary tool for billing system.

FXO Gateway will take the caller ID to be its calling party number which can be divided into the following types.

| | Caller ID |
|---|---|
| With ANI | Whether the Gateway registers to Gatekeeper or not, Gateway will take the ANI to be its calling number. |
| Without ANI | 1. Registering to Gatekeeper only: If Gateway detects the Caller ID, it will take the caller ID to be its calling party number, If not, Gateway will take E.164 alias name to be its calling party number.<br>2. Direct Dial Table only: If Gateway detects the Caller ID, it will take the caller ID to be the calling party number. If not, the voice port number will be the calling party number. |
| Register to Gatekeeper and set the Direct dial table | 1. Caller ID and Direct dial setting : Caller ID will be the calling party number.<br>2. Without Caller ID but Direct dial number: Voice port number will be the calling party number.<br>3. Neither Caller ID nor Direct dial number: E.164 alias name will be the calling party number. |

## *7.4 ANI Setting*

AV-3000 Series(FXO) VoIP Gateway supports ANI(Automatic Numbering Identification) function. You can set the ANI number for the Gateway. The Gateway will take the ANI to be its calling party number for all the outgoing calls. If the Gateway registers to a Gatekeeper, the ANI also can be a tool for billing system.

## *7.5 Incoming/Outgoing call restriction setting*

AV-3000 Series(FXO) VoIP Gateway can set to accept/reject the incoming call from network side and the analog side. The default setting is enabled to accept the incoming call from network side and analog side.



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## *7.6 Follow-on call Setting*

Follow-on call function provides the caller to make another network call without closing the current connection. The caller can get the dial tone by pressing the specific keys after closing a network call. This function is suitable for use in specific countries which the telephone bill charges by『call』, not by『second』or『minute』.

However, please note if the voice port has set the hot line function, the follow-on call function will not be workable.

## *7.7 Specific DTMF tone detection Setting*

An auxiliary device can be installed between the Gateway and the PBX/CO side for transmitting the remote endpoint's status (on-hook or off-hook) to the Gateway. The DTMF tone can be set to indicate the specific meaning. For example, the C-tone indicates off-hook status and D-tone indicates on-hook status. The function can be a tool for billing system.

Please click『Voice FXS』and the following window will appear.



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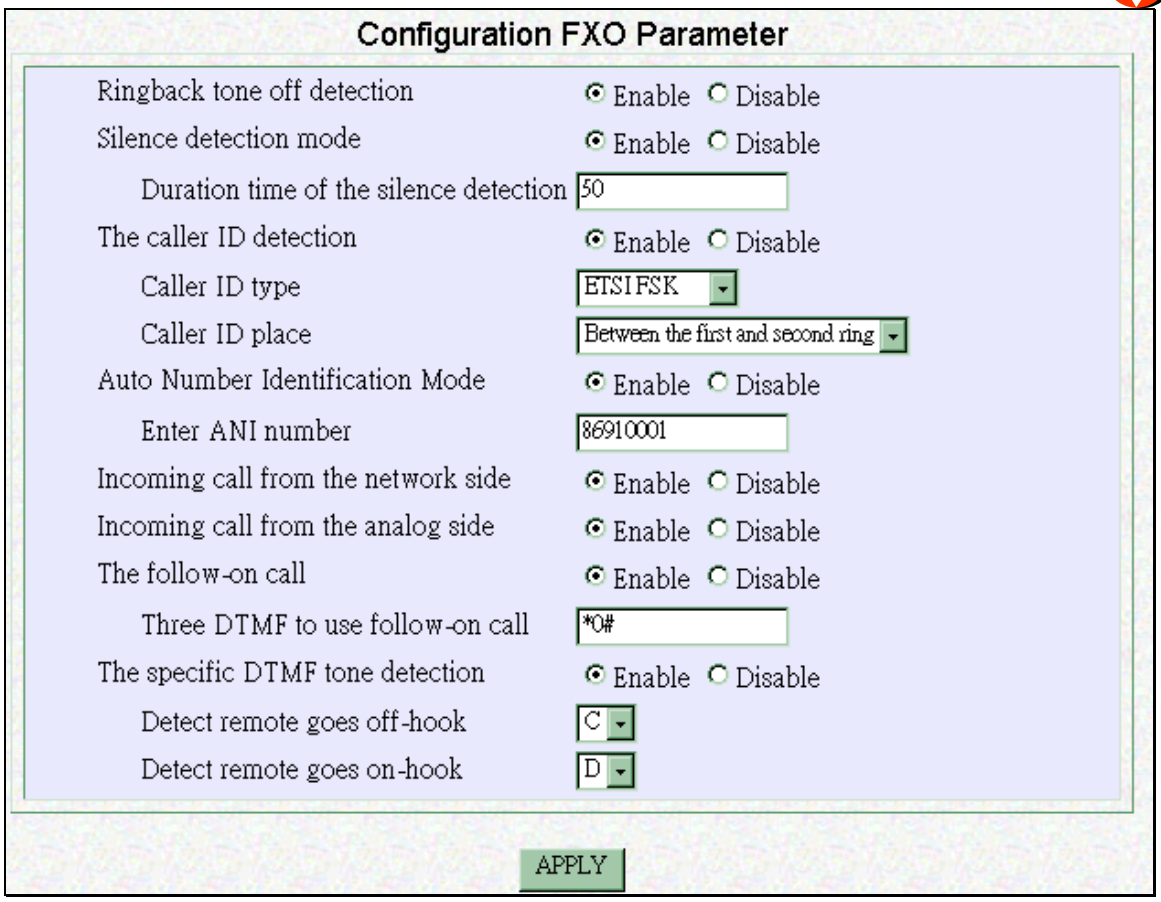


- Duration time of the silence detection：.Set the duration of the silence for Gateway to disconnect the call.
- Caller ID type：The standard type for caller id can be divided into three types. Please choose the type for your local use.
  - **Bellcore FSK: The standard is adopted in USA, Canada and Hong Kong.**
  - **ETSI FSK: The standard is adopted in European countries and Taiwan.**
  - **ETSI DTMF: The standard is adopted in Taiwan and India.**
- Caller ID place：The types to receive caller ID can be『Before the first ring』and 『Between the first and second ring』. You can choose one of them depending on your local Telecom's setting.
- Enter ANI Number：Enter the ANI number.
- Three DTMF to use follow-on call: Set the three digits for dialing the follow-on call.


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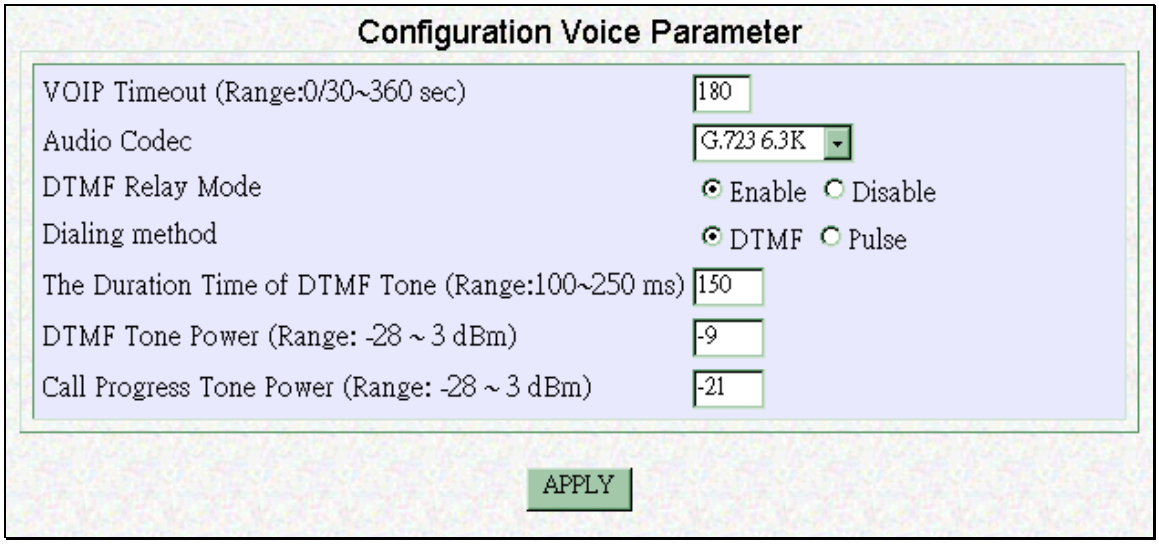
Please note in the following condition, we recommend you not to choose the caller ID place to 『Before the first ring』 → ***the PBX/CO doesn't provide the caller ID function***. If you enable the Caller ID Detection function and choose the caller ID place to 『Before the first ring』, the caller will not receive the ringback tone and the call will become failed.

## *8. Voice Parameters*

You can set the codec type and VoIP timer expiration. AV-3000 series (FXO) Gateway provides the function to switch the codec to be as the same as caller's automatically when it is a callee. On the other hand, when it is a caller, it will spend at most 5 seconds to wait the callee to switch the codec if the codec is different. When the callee doesn't switch the codec, avois VoIP Gateway will disconnect the call.




- VOIP Timeout：If the remote Gateway has no any response for the call, Gateway will close the connection when the time exceeds the set time.
- Audio Codec：Audio codec.
- DTMF Relay Mode：Enable DTMF relay mode or not.
- Dialing Method: Choose the dialing method to DTMF or pulse.
- The Duration Time of DTMF Tone：Set the duration time of DTMF tone.
- DTMF tone power：Adjust DTMF tone power.
- Call progress tone power：Adjust call progress tone power. For example, busy tone, dial tone,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ringback tone, fastbusy tone.

## 9. System IP Configuration

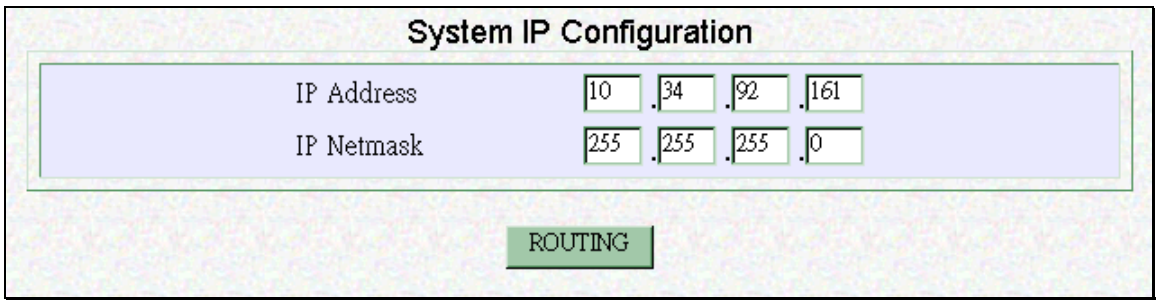
System IP Configuration is one of the most important functions. The followings are included in this function：

- Check the IP address of the Gateway.
- Check the routing IP address
- When the enterprise has many routers, the static router IP address can be set up to communicating with the specific gateway.

For advances setting only !

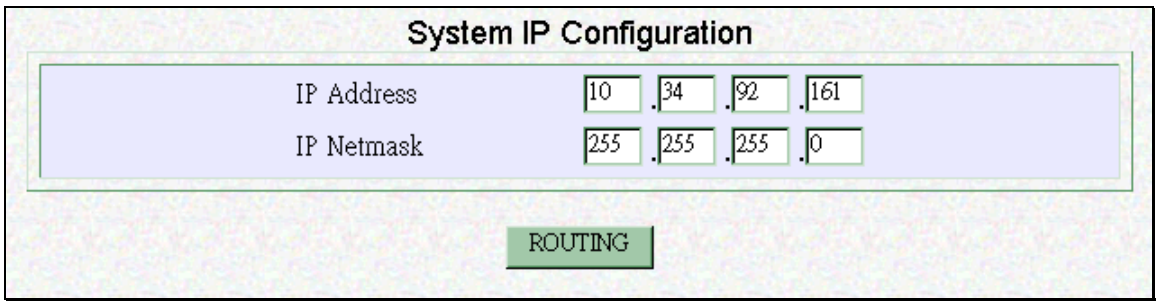
## 9.1 Check IP address of Gateway

Please double click 「IP」 in Advanced section. You can see the IP Address and IP Netmask.




## 9.2 Default Router IP Address Setting

**Step1**：Press the 「Routing」 button and then press 「ADD」 button.



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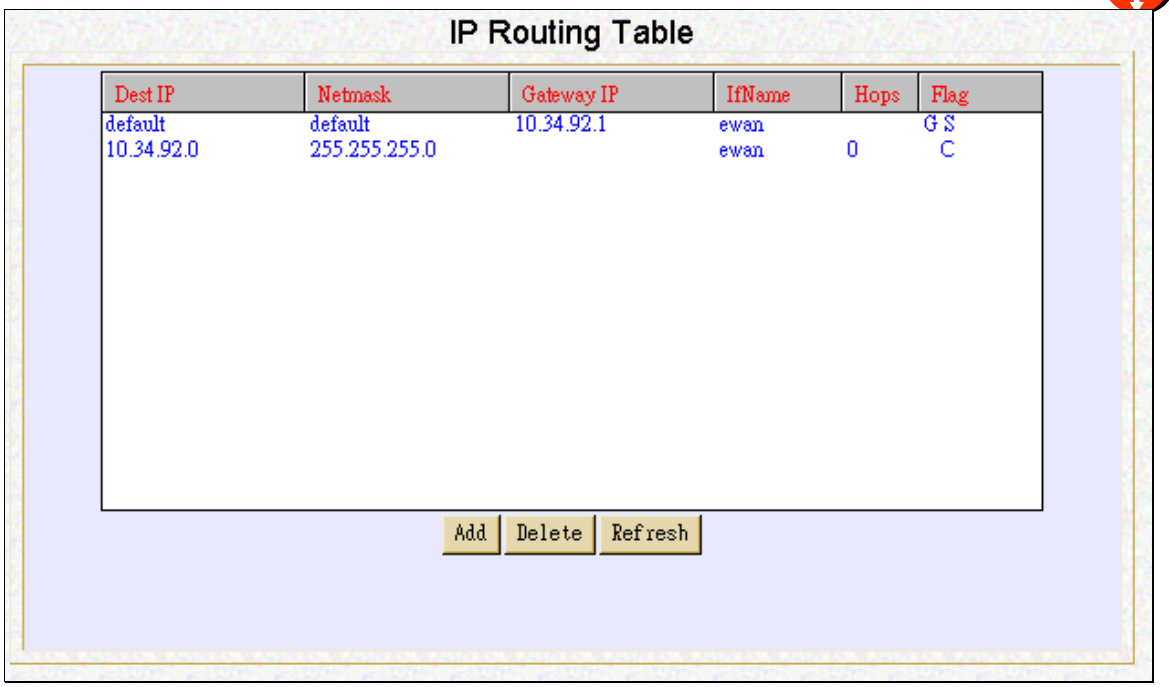
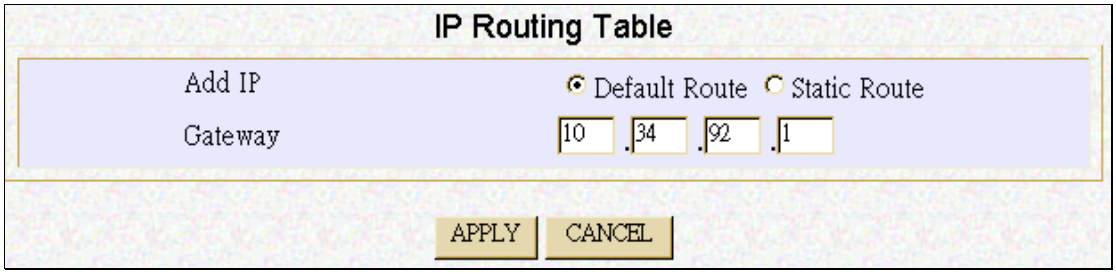



**Step2**：Please select the 「**Default Route**」.Afterwards, key in the default router IP address and then press 「**APPLY**」.




## ***9.3 Static Router IP address setup***

When the network has many routers, you can set the static router for communicating with designated gateway。Please select 「**IP**」 in 「**Advanced**」section→ Press 「**Routing**」→Press 『**ADD**』→Choose 「**Static Route**」. Finally, you can the following table.



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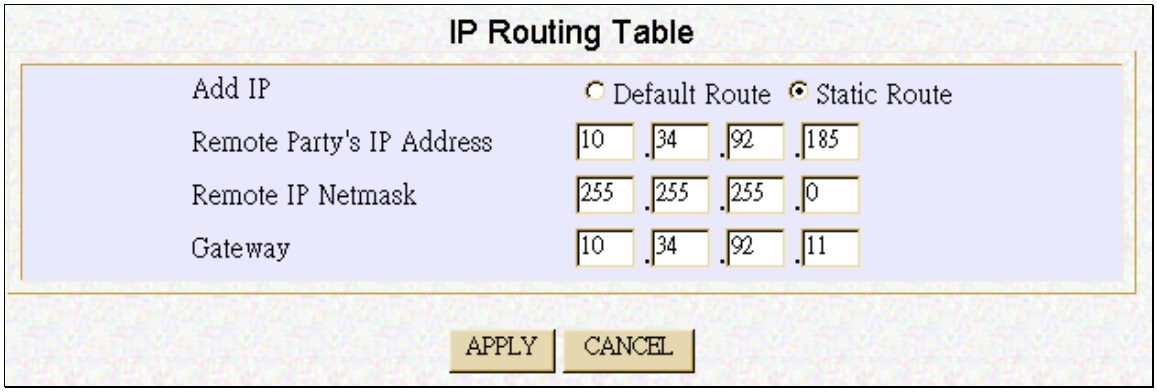
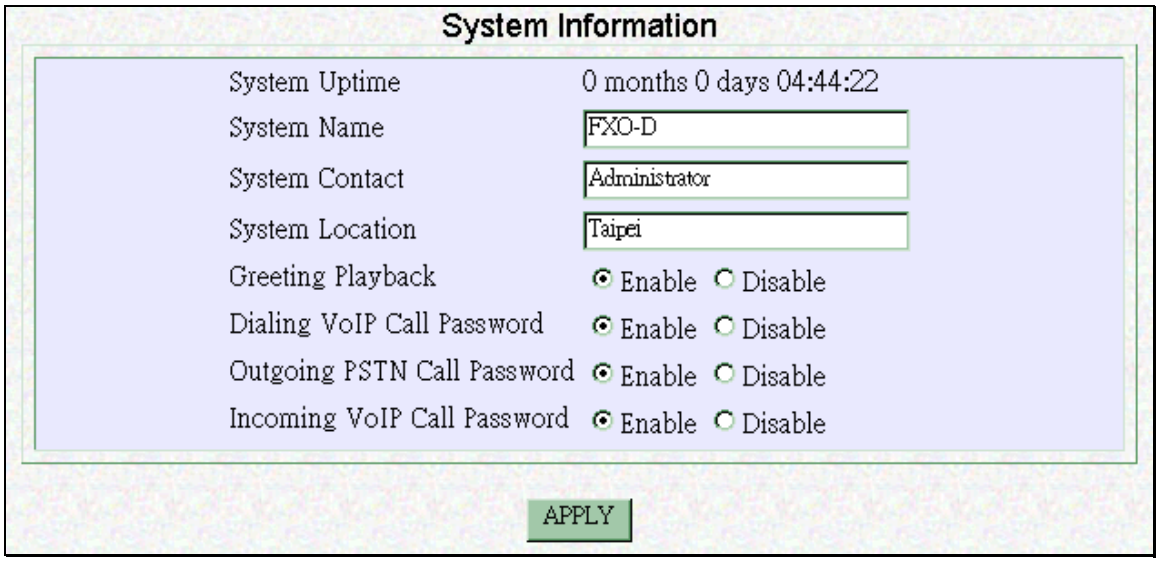



- **Remote Party's IP Address**：Remote Gateway's IP address
- Remote IP Netmask
- **Gateway**：Remote router's IP address

## *10. System*

System Information will display all the important information, such as：




- System Up time：How long the system has been turned on
- System Name：System name.



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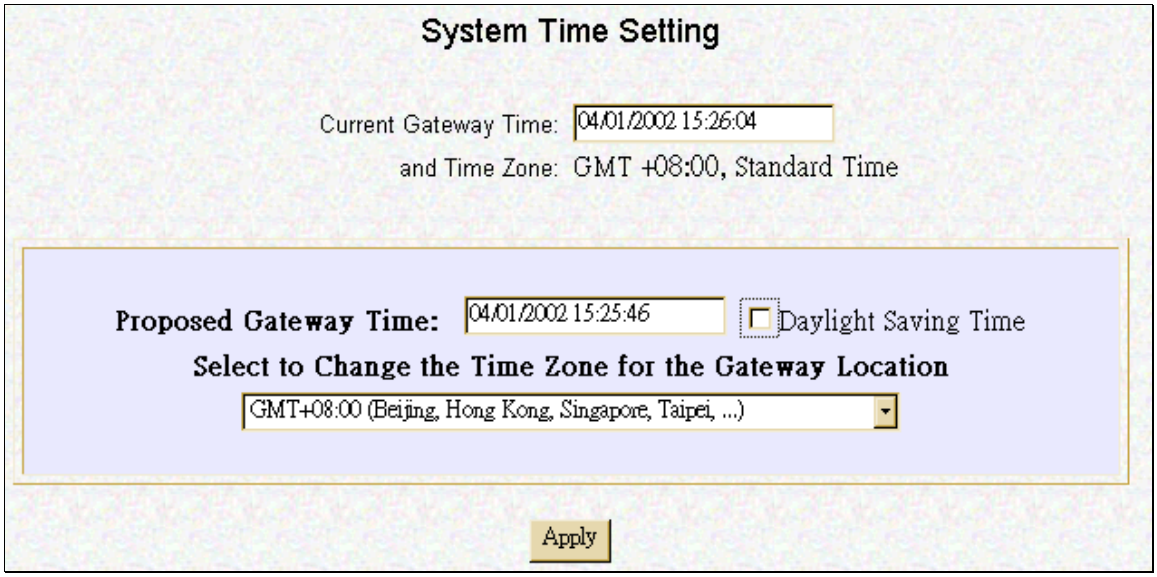
- System contact：Contact person
- System location：System location
- Greeting Playback：Enable the greeting function. If you have set the greeting, you can choose to enable the function or not.
- Dialing VoIP Call Password：When someone dials Internet call, he needs to enter the password. If you have set the VoIP call password, you can choose to enable the function or not.
- Outgoing PSTN Call Password：When someone dials PSTN call, he needs to enter the password. If you have set the PSTN call password, you can choose to enable or not.
- Incoming VoIP Call Password：When there is VoIP call from Internet, he needs to enter the password. If you have set the incoming ip call password, you can choose to enable the function or not.

Regarding change the password of VoIP call, PSTN call, and incoming ip call, please go to the 『**Change Password**』 section.

## *11. System Time*

When the user use the browser, the system date and time will be updated in accordance with the date and time of the computer.

AV-3000 Series FXO can get the system date, time and time zone via Browser. Therefore, you can understand all the calls' calling time.


System Time Setting
Current Gateway Time: 04/01/2002 15:26:04
and Time Zone: GMT +08:00, Standard Time
Proposed Gateway Time: 04/01/2002 15:25:46
Daylight Saving Time
Select to Change the Time Zone for the Gateway Location
GMT+08:00 (Beijing, Hong Kong, Singapore, Taipei, ...)
Apply



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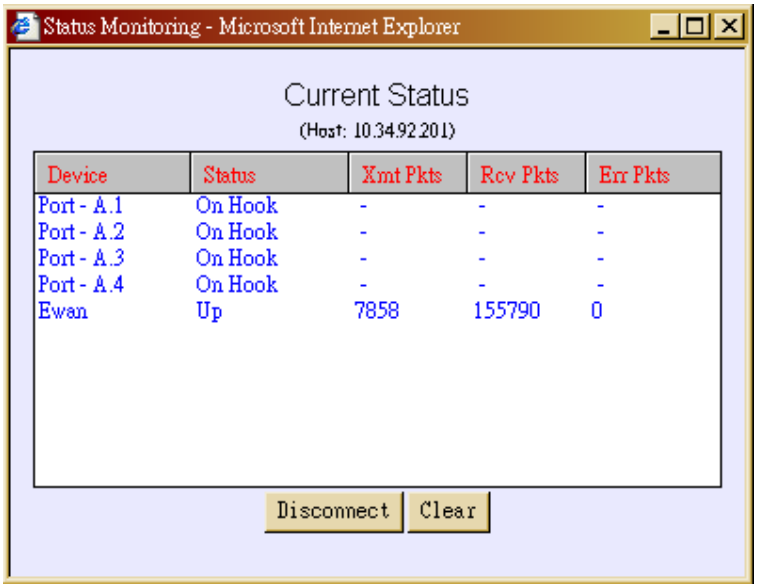
- Current Gateway Time: The current Gateway time which is gotten from SNTP server.
- Proposed Gateway Time: The current time of Gateway..
- Select to Change the Time Zone for the Gateway Location: The time zone for the Gateway

If you need to adjust the date and time, please adjust the date and time of your computer. Then the Gateway time will be updated.

System Administrator Should set up the Correct Time Zone in order to have a accurate display time.

## *12. System Status*

When you enter the main page ”SMART”, a window will appear called 「**Current Status**」. If you need to know the status of each port, please press 「**System Status**」.




If you want to re-count number of the transited and accepted packets, you can select the row and press 「**Clear**」.



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## 13. Connection Log

Show all the IP connection information. This is very helpful for administrator to monitor the Gateway and to be the base of accounting.

**CONNECTION LOG**

| DATE | TIME | CHANNEL | EVENT | DURATION | DETAIL |
|---|---|---|---|---|---|
| Jul-12-02 | 08:48:37 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:48:39 | EWAN (ewan) | Disconnected | 00:00:11 | |
| Jul-12-02 | 08:48:42 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:48:47 | EWAN (ewan) | Disconnected | 00:00:19 | |
| Jul-12-02 | 08:48:47 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:48:55 | EWAN (ewan) | Disconnected | 00:00:27 | |
| Jul-12-02 | 08:48:57 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:49:04 | EWAN (ewan) | Disconnected | 00:00:36 | |
| Jul-12-02 | 08:49:07 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:49:14 | EWAN (ewan) | Disconnected | 00:00:46 | |
| Jul-12-02 | 08:49:17 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:49:24 | EWAN (ewan) | Disconnected | 00:00:56 | |
| Jul-12-02 | 08:49:27 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:49:35 | EWAN (ewan) | Disconnected | 00:01:07 | |
| Jul-12-02 | 08:49:37 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->129.132.2.21 1729->123 |
| Jul-12-02 | 08:49:41 | EWAN (ewan) | Connected | | Outgoing Call to Default Service |
| Jul-13-02 | 08:50:54 | EWAN (ewan) | Disconnected | 24:01:13 | |
| Jul-13-02 | 08:52:00 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->61.218.89.98 1728->1719 |
| Jul-13-02 | 08:52:00 | EWAN (ewan) | Connected | | Outgoing Call to Default Service |
| Jul-14-02 | 08:53:13 | EWAN (ewan) | Disconnected | 24:01:13 | |
| Jul-14-02 | 08:57:59 | N/A (N/A) | Triggered | | IP/UDP 0.0.0.0->61.218.89.98 1728->1719 |
| Jul-14-02 | 08:57:59 | EWAN (ewan) | Connected | | Outgoing Call to Default Service |
| Jul-15-02 | 01:38:24 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:38:46 | VOIP (Ext. 1) | Disconnected | 00:00:22 | |
| Jul-15-02 | 01:38:58 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:39:12 | VOIP (Ext. 1) | Disconnected | 00:00:14 | |
| Jul-15-02 | 01:40:30 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:40:30 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:41:27 | VOIP (Ext. 1) | Disconnected | 00:00:57 | |
| Jul-15-02 | 01:46:22 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:46:42 | VOIP (Ext. 1) | Disconnected | 00:00:21 | |
| Jul-15-02 | 01:47:07 | VOIP (Ext. 1) | Connected | | Outgoing Call to 61.218.89.98/117 |
| Jul-15-02 | 01:47:09 | VOIP (Ext. 1) | Disconnected | 00:00:02 | |

Refresh

The connection record will not be saved after the gateway turning off.

## 14. System Upgrade

When you use the function to upgrade the version via Browser, please do not to tick on the 『Proxy server』of the LAN setting until the upgrade is completed. If you would like to close the proxy server setting, please open your IE→ 『Tools』→ 『Internet Options』→ 『Connections』→ 『LAN Settings』→ 『Proxy Server』

- This system comes with a system upgrade function, which user can upgrade to a newer version.
- Click on the 『Upgrade』after selecting the newer version of Firmware



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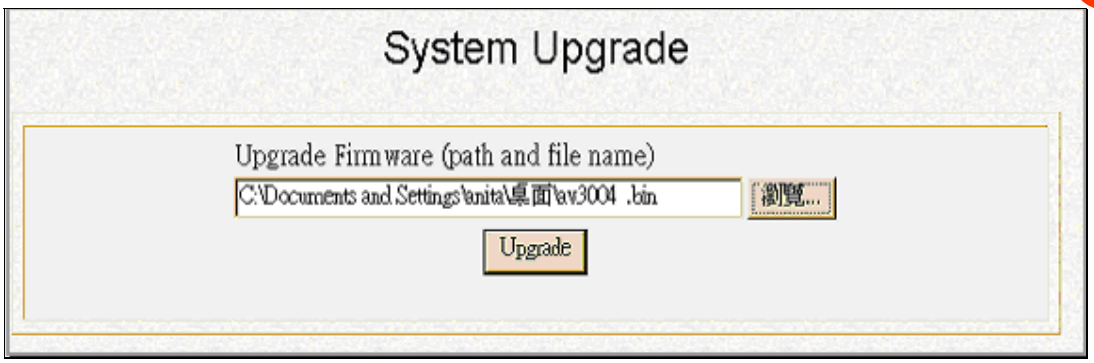
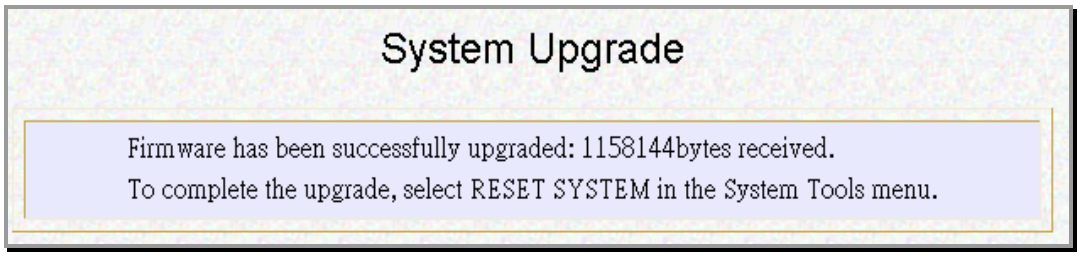



Please wait for about 2 minutes after pressing 「**Upgrade**」 button. After completing upgrade , please press the 「**Reset System**」 in the left side and re-configure from the console port.(Because the configuration will return to its default. IP default：192.168.168.230. Netmask IP：255.255255.0 .)


System Upgrade
Firmware has been successfully upgraded: 1158144bytes received.
To complete the upgrade, select RESET SYSTEM in the System Tools menu.

## *15. Configuration Data Options*

When you complete the newer configurations, we recommend you to press the 「**Configuration Data Option**」 and press 「**save**」 button to save the alteration into system.. If you don't do the action, the system will save it automatically after 30 minutes. If you choose 「**Clear and Reset**」 , all the configurations will return to their default and reset.



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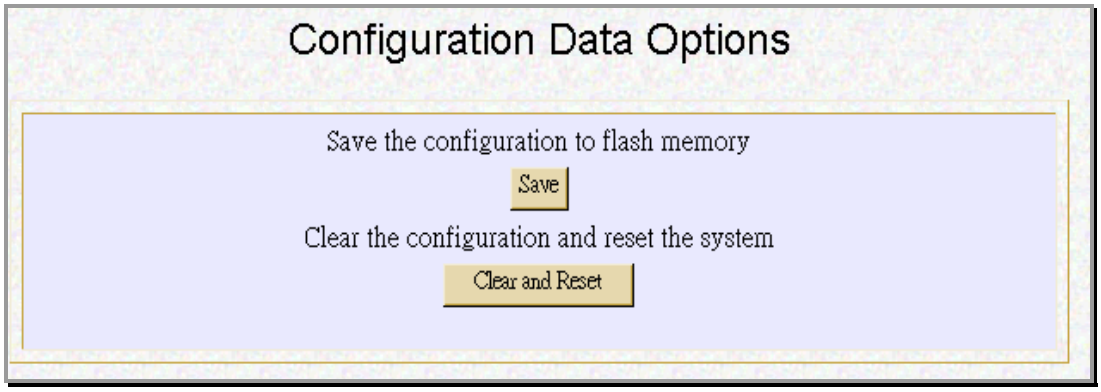
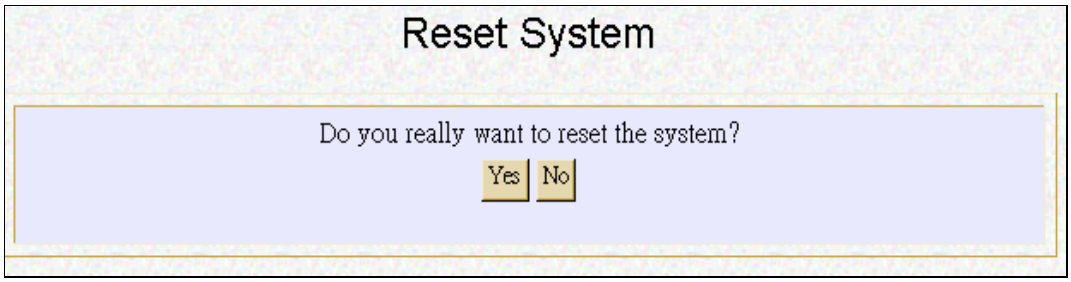
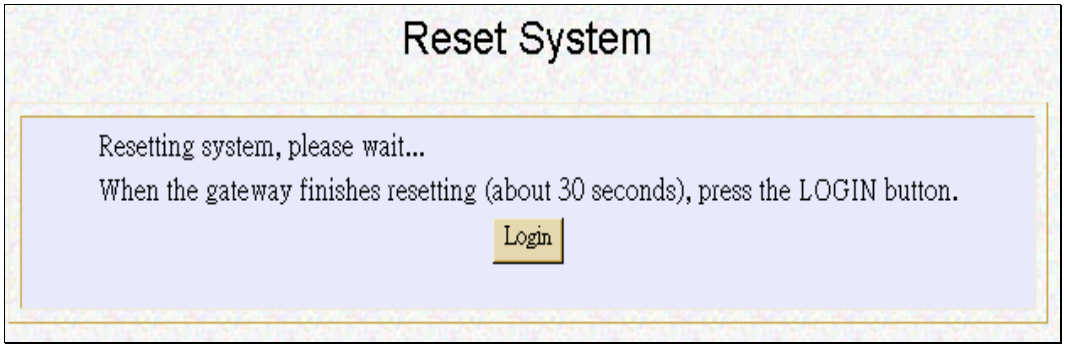

Configuration Data Options
Save the configuration to flash memory
Save
Clear the configuration and reset the system
Clear and Reset

## *16. Reset System*

When you complete the configuration, you can use 「Reset System」 to reset the system.





Reset System
Resetting system, please wait...
When the gateway finishes resetting (about 30 seconds), press the LOGIN button.
Login



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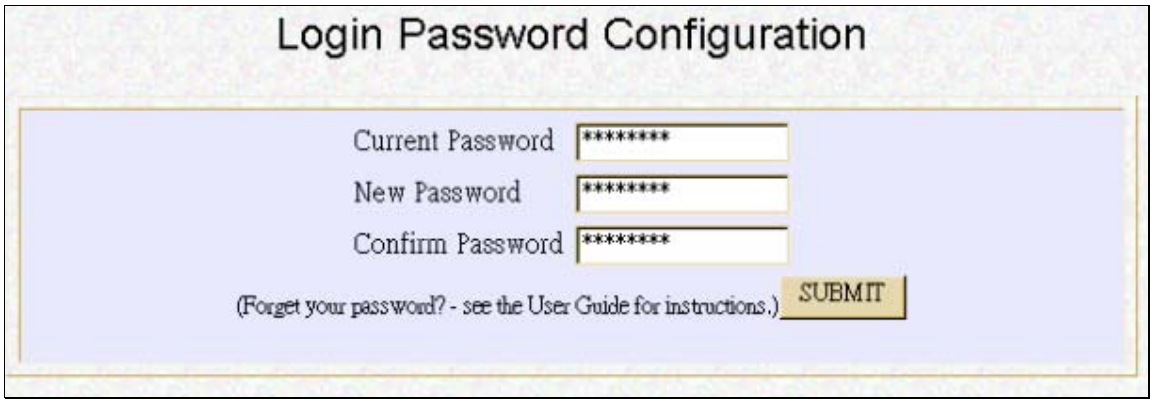
# 17. Change Password

In order to provide the completed safety management, FXO offers the following password configuration：

- Login Password Configuration：Login password (default password：password)
- **VoIP Call Password Configuration：**When someone dials Internet call, he needs to enter the password.**(default password：0000)**
- **PSTN Call Password Configuration：**When someone dials PSTN call, he needs to enter the password.**(default password：0000)**
- **Incoming IP Call Password Configuration：**When there is VoIP call from Internet, he needs to enter the password.**(default password：0000)**

## 17.1 Login Password Configuration

To prevent other people to change the configuration of the Gateway, we recommend you change the password regularly.




- When you re-set the password, please key in the current password once, and the new password twice. If you don't set the password, the function will not be started.

Passwords are 6 ~ 15 characters (numbers, letters, dashes or underscores, slashes, or colons) starting with a letter or a number

If the new password for login to the system is missed or forgot, please contact Wistron Softel directly to solve the problem.



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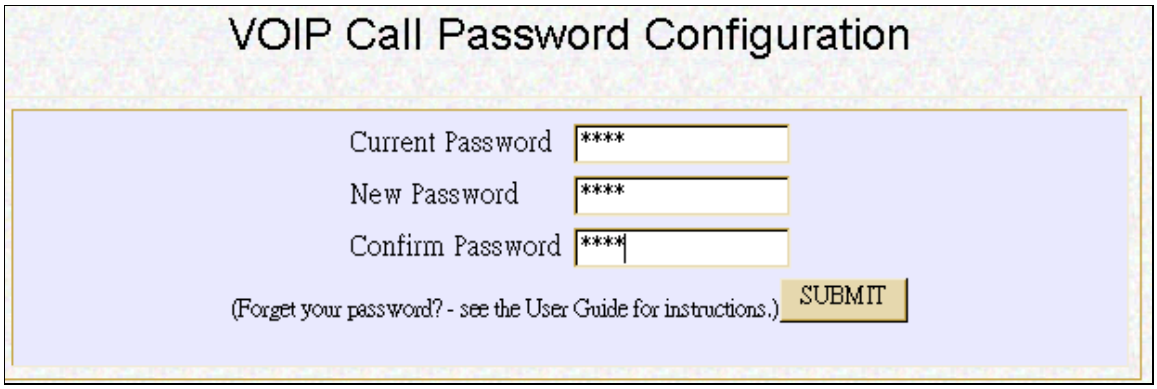
## *17.2 VoIP Call Password Configuration*




- When you re-set the password, please key in the current password once, and the new password twice. If you don't set the password, the function will not be started.
- The new password is exactly 4 digits.



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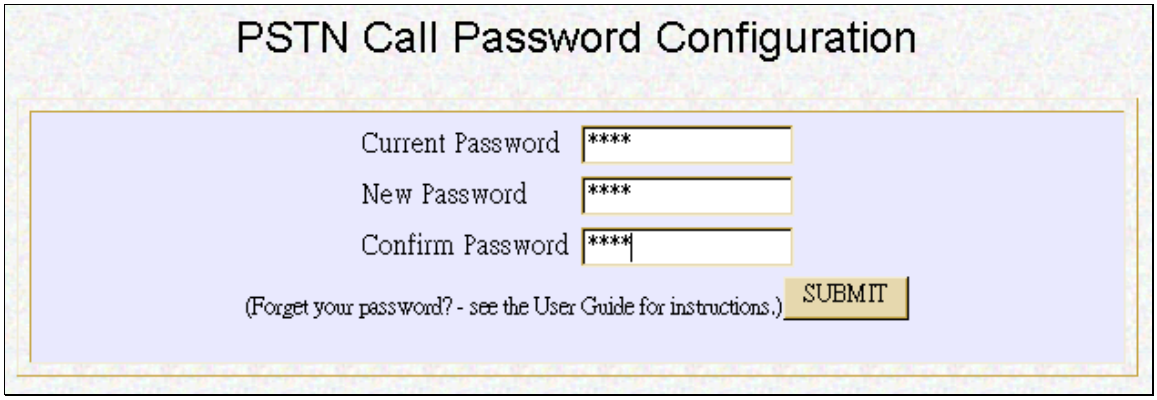
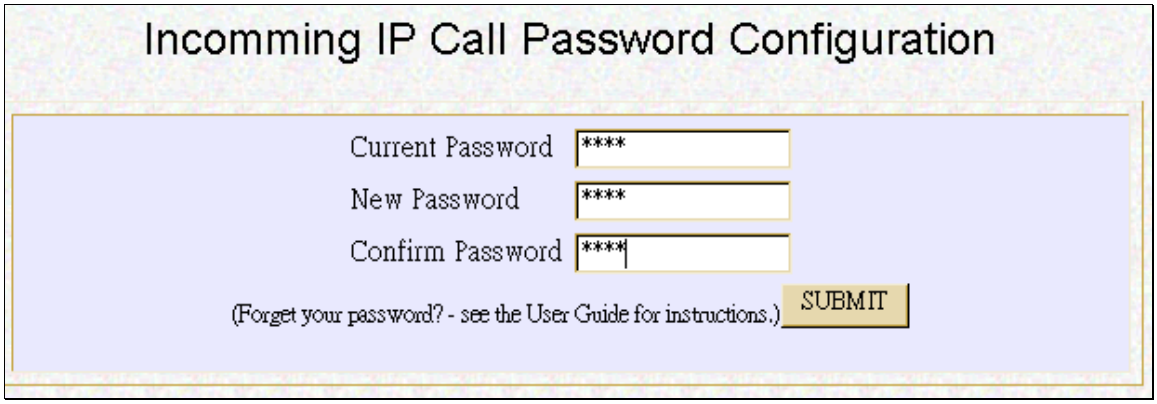
## *17.3 PSTN Call Password Configuration*

- When you re-set the password, please key in the current password once, and the new password twice. If you don't set the password, the function will not be started.
- The new password is exactly 4 digits.




## *17.4 Incoming IP Call Password Configuration*




- When you re-set the password, please key in the current password once, and the new password twice. If you don't set the password, the function will not be started.
- The new password is exactly 4 digits.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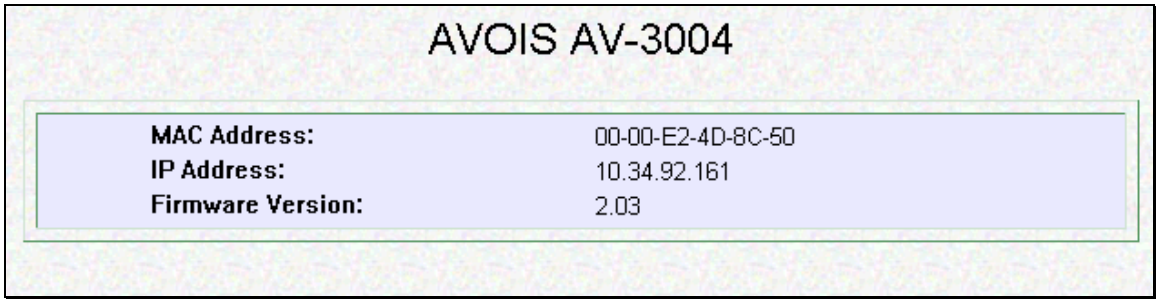
## 18. Support

If you have any inquiry or need any support, please contact via E-mail：softel_tech@wsoftel.com.tw or go to our website：http://www.avois.com.tw/

## 19. About System

If you need to know the information about the firmware version, the IP address of the Gateway, you can choose 「**About System**」.





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## ***20. Feedback***

Wistron Softel welcomes any kind of feedback on AV-3000 series VOIP gateway.
If you have any comments or suggestions about this products, please contact us with/or the following :

•The product name/document title/document number.
•The purchased date and the page number of the manual.
•A concise explanation of your comments.
•General suggestions are also welcome.


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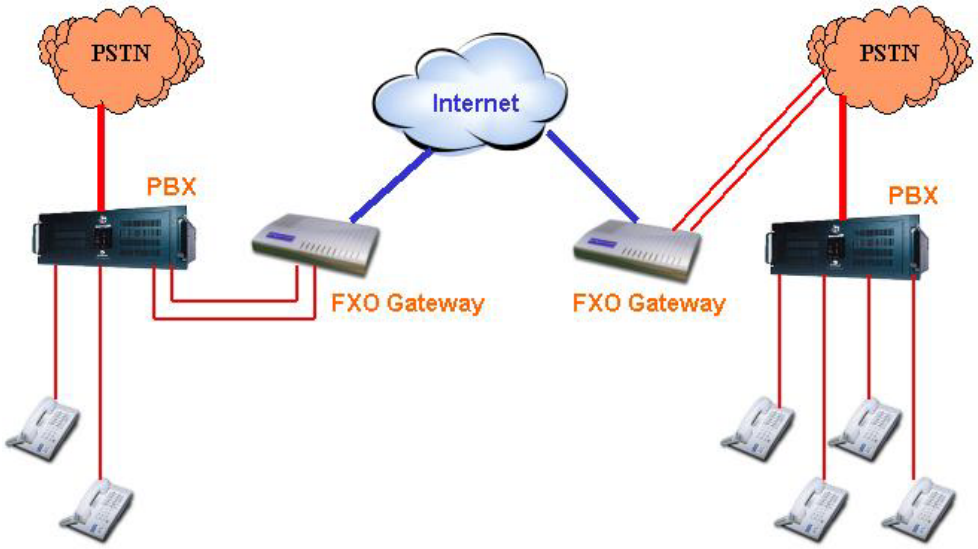
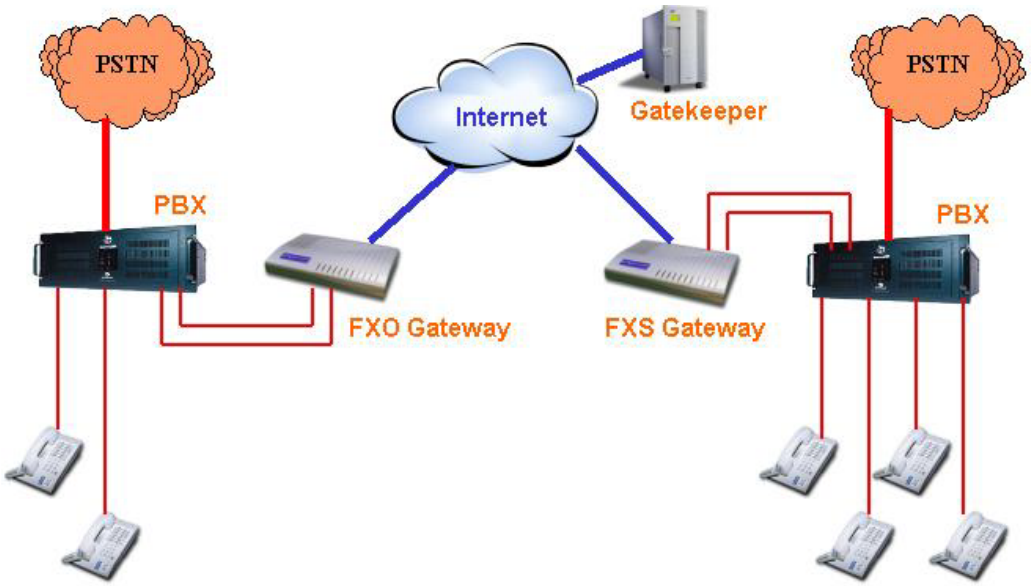
# Chapter 3 Real Case

## 1. Infrastructure

In general, the infrastructures for FXO can be divided into three types, the diagrams are showed as below:




FXO-FXO(connects to PSTN)




FXO-FXS



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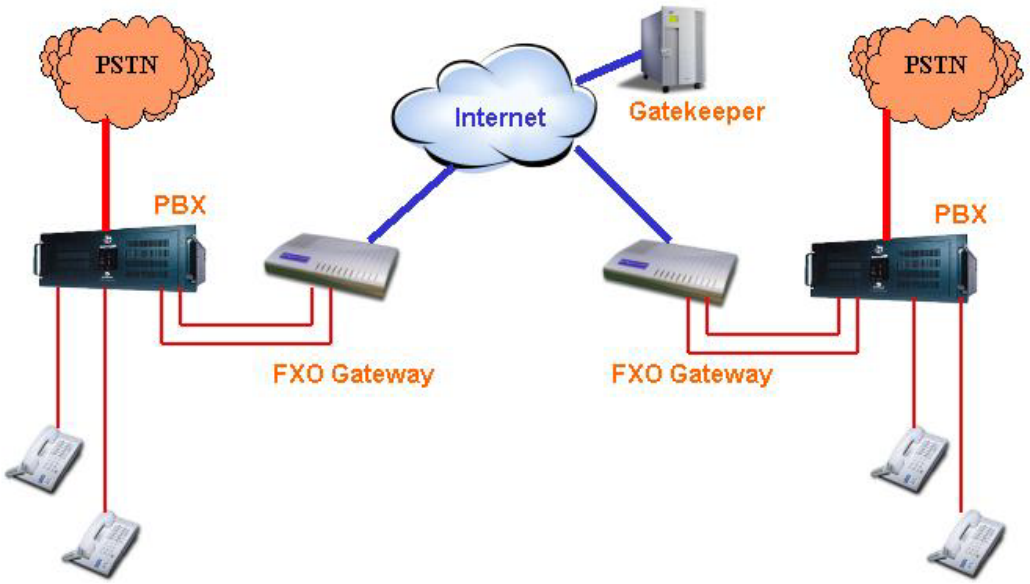
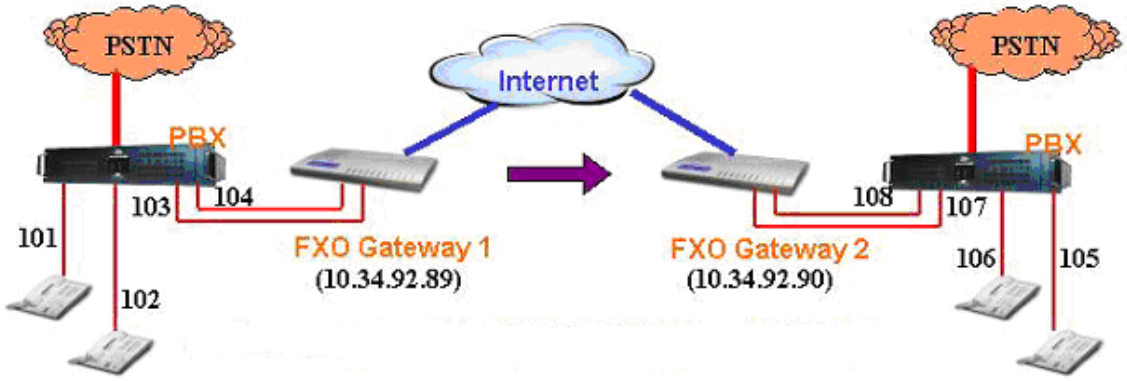



FXO-FXO(connects to PBX phone side)

## *2. Real Case Example*

### *2.1 Make a internal call of the remote place-One phase dialing*

You can make a call to the remote place by internal line. Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 2 is 10.34.92.90。 We use the remote Gateway ID to make an internal call. The settings are as below:




Step1: Clicking the『Remote Gateway』 of 『Dialing Plan』. Suppose the ID for FXO Gateway 2 is『22』. Please complete the settings as below. And then press 『Apply』.



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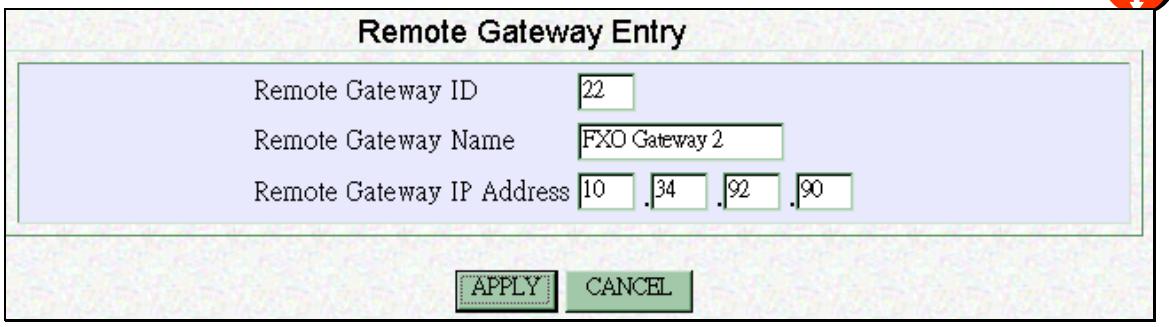


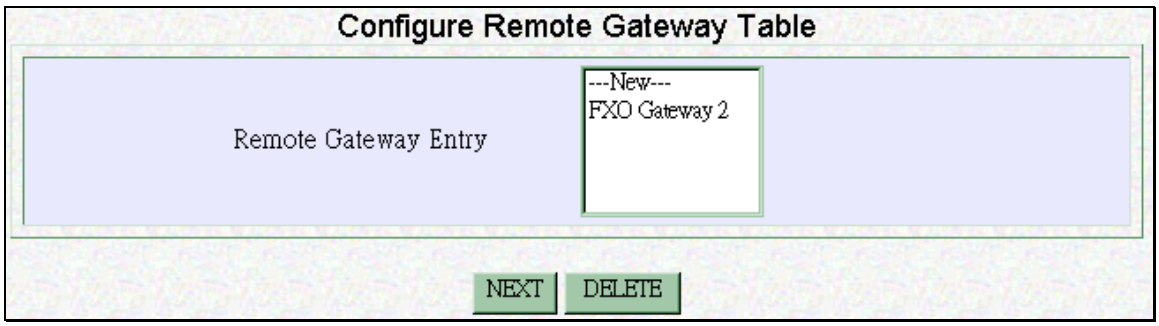


Step 2: Set up the digits of internal/external line for FXO Gateway 2. Clicking the『Phone Number Digits』 in the menu,『Dialing Plan』. Set the PBX extension number digits to『3』and the PSTN number digits to『6』. Afterwards, press『Apply』.

Step 3: Set the Prefix number for external line. Please click the『Prefix Setting』 in the『Dialing Plan』。Set the prefix number to 9. And then press『Apply』.



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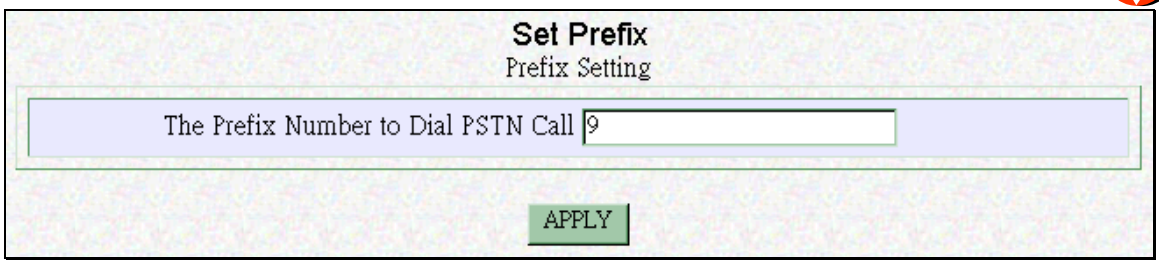
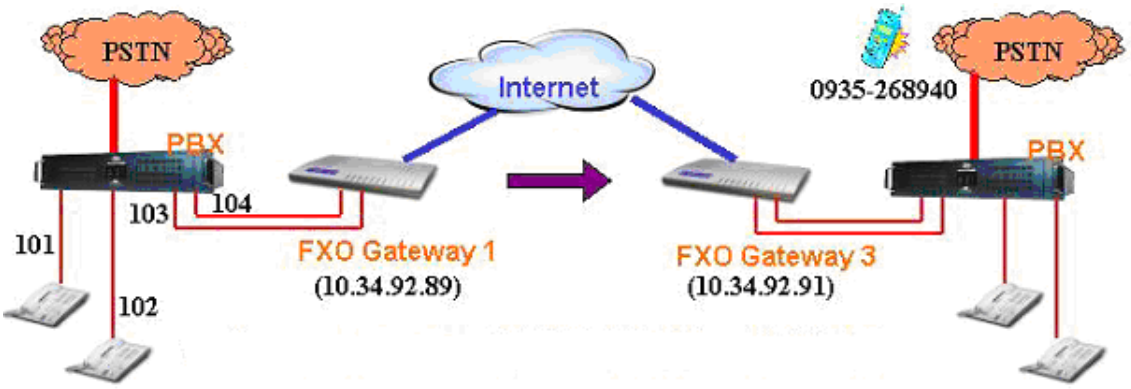



Step 4: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. You cal press『22105』to the remote extension number,105.

Step 5: FXO Gateway 1will send the extension number 105 to the FXO Gateway 2. Due to the digit of 『105』is 3 which is less than the maximum digits of PBX entension number digits, FXO Gateway 2 will take the call to be an internal call. The phone with extension number 105 will ring.

## *2.2 Make a outgoing call on the remote place(One phase dialing)*

You can make an outgoing call on the remote place as similar as making an outgoing call in local place. Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 3 is 10.34.92.91. We use the remote Gateway ID to make an internal call. The settings are as below:




Step1: Clicking the『Remote Gateway』 of 『Dialing Plan』and adding a new remote gateway ID for FXO Gateway 3. Suppose the ID for FXO Gateway 3 is『33』. Please complete the settings as below. And then press 『Apply』.



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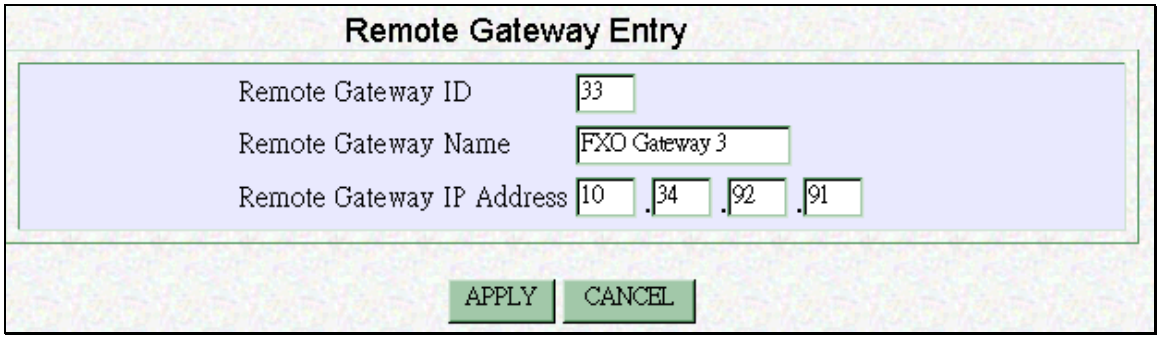


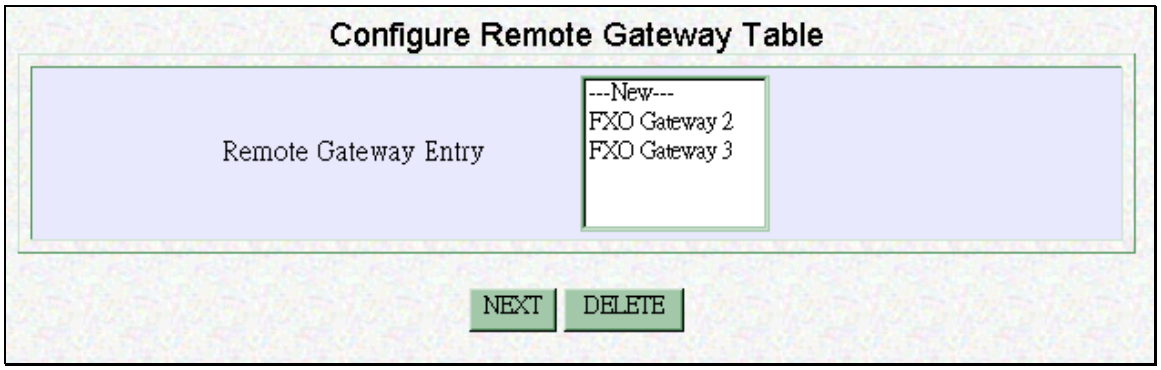


Step 2: Set up the digits of internal/external line for FXO Gateway 3. Clicking the『Phone Number Digits』 in the menu,『Dialing Plan』. Set the PBX extension number digits to『3』and the PSTN number digits to『6』. Afterwards, press『Apply』.

Step 3: Set the Prefix number for external line. Please click the『Prefix Setting』 in the『Dialing Plan』。Set the prefix number to 9. And then press『Apply』.



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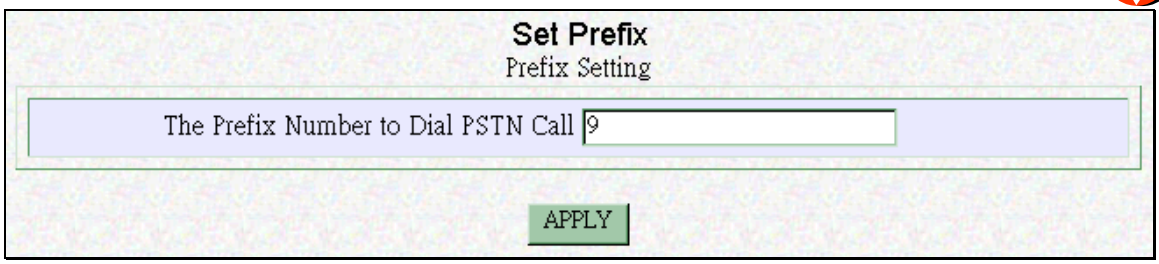


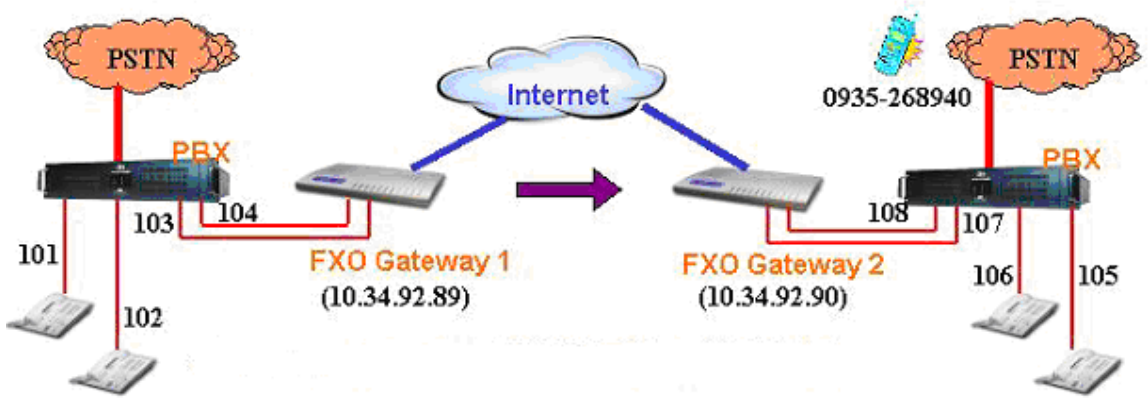

Step 4: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. You can press『0935268940』to the remote outgoing call.

Step 5: FXO Gateway 1will send the number 0935268940 to the FXO Gateway 3. Due to the digit of 『0935268940』is 10 which is larger than the minimum digits of PSTN number digits, FXO Gateway 3 will take the call to be an external call. The cellular phone with number 0935268940 will ring.

## *2.3 Make an outgoing call on the remote place(Two phase dialing)*

You can make an outgoing call at the remote place as similar as making an outgoing call in local place. 『Two phase dialing』indicates that the dialer doesn't send out the phone number to the remote gateway. The remote Gateway doesn't receive the destination phone number. So it will send the dial tone to the dialer. The dialer can make the destination phone number after hearing the dial tone.

Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 2 is 10.34.92.90. We use the remote Gateway ID to make an outgoing call. The settings are as below:



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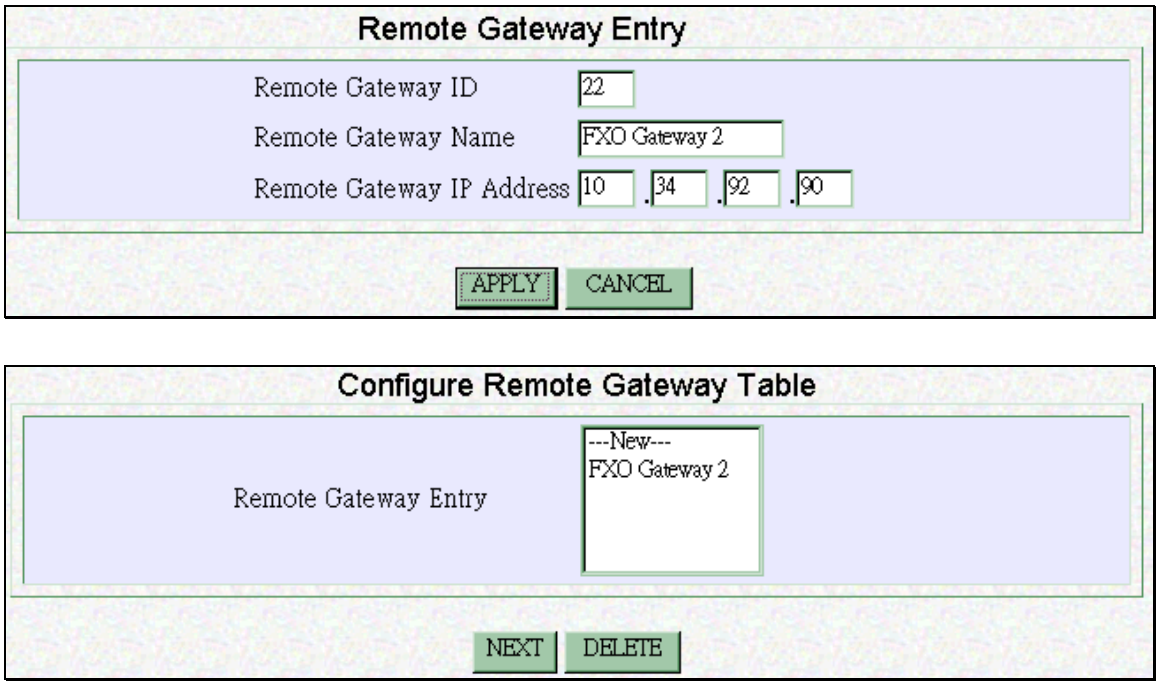
Step1: Clicking the『Remote Gateway』 of 『Dialing Plan』. Suppose the ID for FXO Gateway 2 is『22』. Please complete the settings as below. And then press 『Apply』.




Step2: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. Please press『22』for connecting to FXO Gateway 2. And then you will hear the dial tone again from FXO Gateway 2. Now, you can make the internal call or outgoing call.

Step3: If you would like to make an internal call, please dail the extension number. If you want to make an outgoing call, please dail the prefix number first for making a PSTN call. And then you can dial the diestination phone number.

## *2.4 Make a call to the remote place by internal line(One phase dialing)*

You can make a call to the remote place by internal line. Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 2 is 10.34.92.90。 We use the directdial number to make an internal call. The settings are as below:



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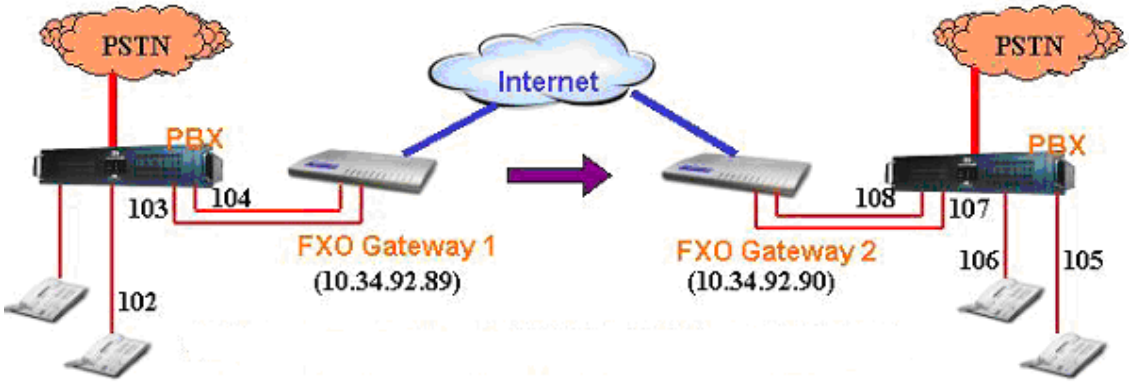
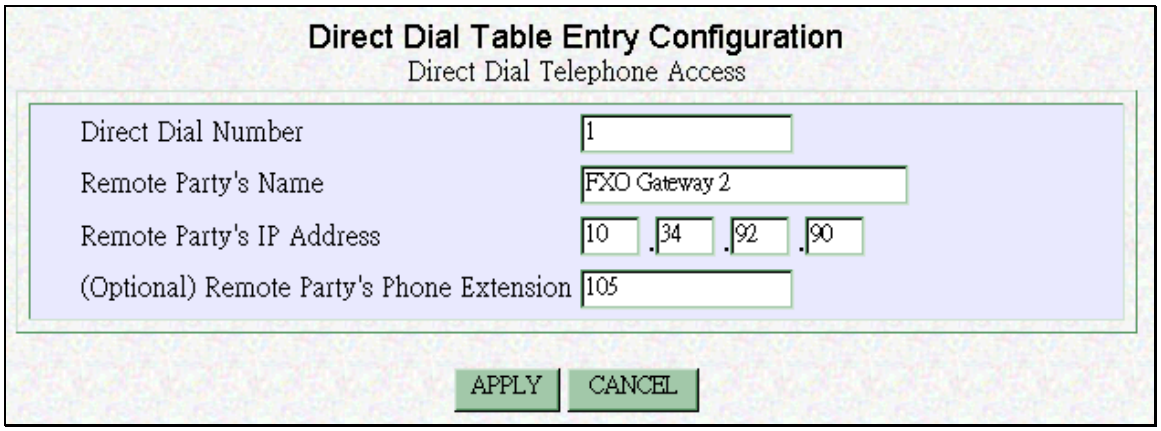
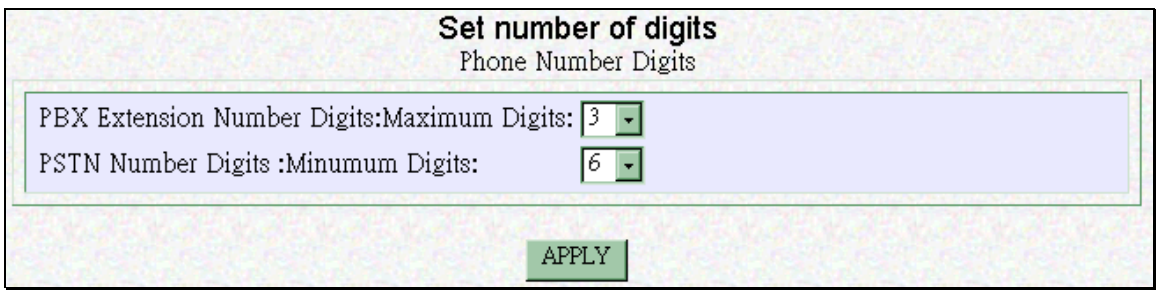



Step1: Clicking the『Direct Dial Table』 of 『Dialing Plan』. Please add the new direct dail number. Suppose the direct dial number for FXO Gateway 2 is『1』with the extension number, 105. Please complete the settings as below. And then press 『Apply』.




Step 2: Set up the digits of internal/external line for FXO Gateway 3. Clicking the『Phone Number Digits』 in the menu,『Dialing Plan』. Set the PBX extension number digits to『3』and the PSTN number digits to『6』. Afterwards, press『Apply』.



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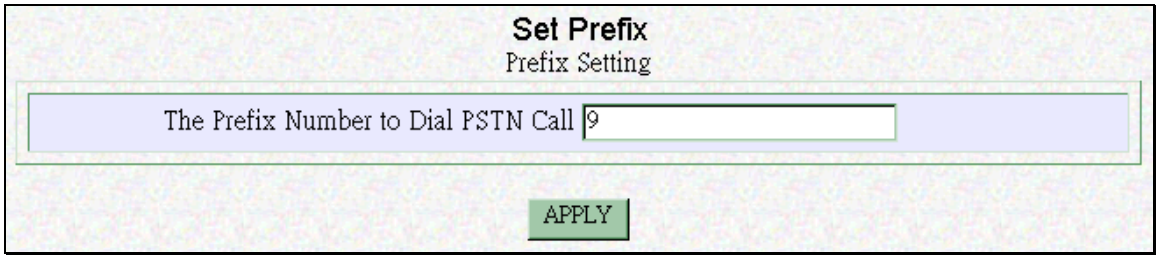
Step 3: Set the Prefix number for external line. Please click the『Prefix Setting』 in the『Dialing Plan』。Set the prefix number to 9. And then press『Apply』.




Step 4: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. Please press『1』for connecting to FXO Gateway 2.

Step 5: FXO Gateway 1 will send the number 105 to the FXO Gateway 2. Due to the digit of 『105』is 3 which is less than the maximum digits of extension phone number digits , FXO Gateway 2 will take the call to be an internal call. The phone with extension number 105 will ring.

## *2.5 Make an outgoing call at the remote place(One phase dialing)*

You can make an outgoing call at the remote place as similar as making an outgoing call in local place. 『Two phase dialing』indicates that the dialer doesn't send out the phone number to the remote gateway. The remote Gateway doesn't receive the destination phone number. So it will send the dial tone to the dialer. The dialer can make the destination phone number after hearing the dial tone.

Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 3 is 10.34.92.91. We use the direct dial number to make an outgoing call. The settings are as below: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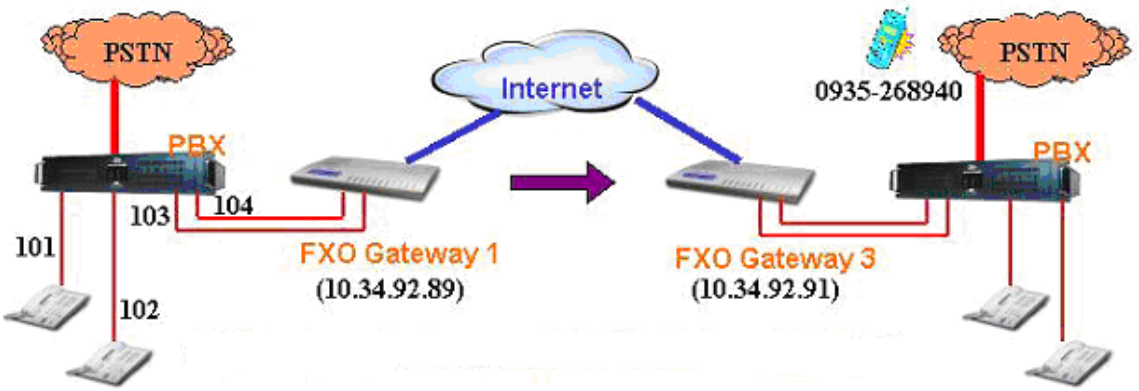
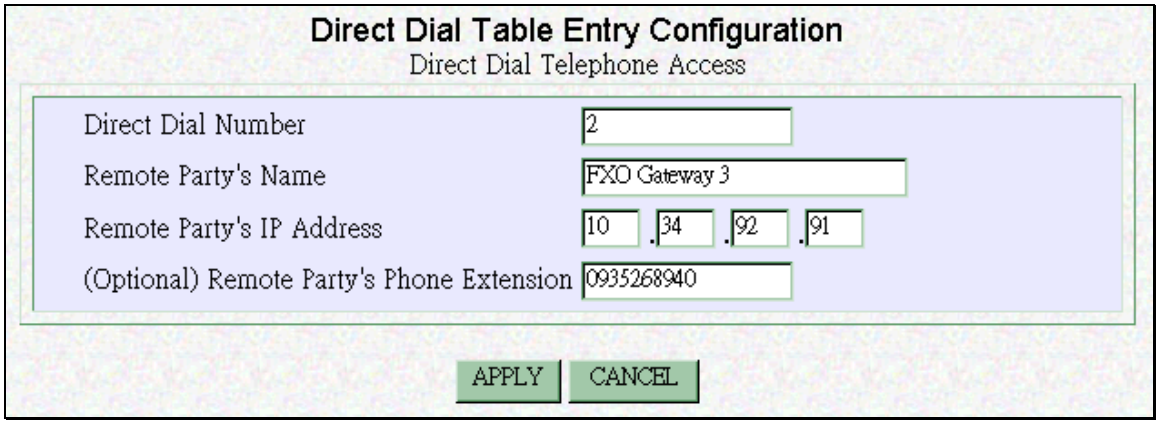
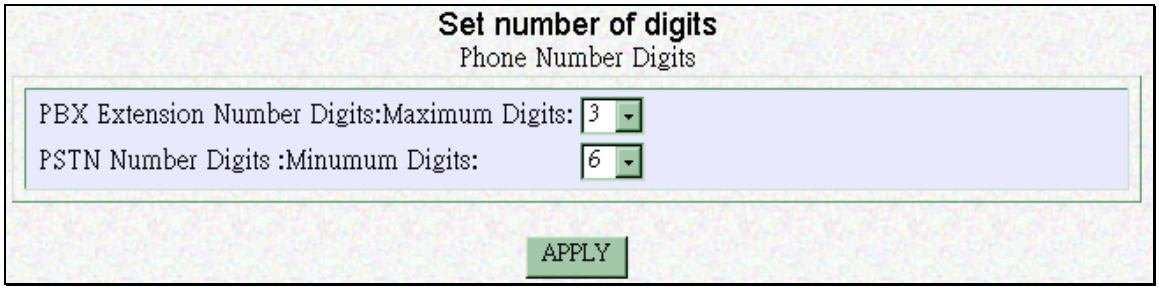



Step1: Clicking the『Direct Dial Table』 of 『Dialing Plan』. Please add the new direct dail number. Suppose the direct dial number for FXO Gateway 3 is『』with the destination phone number, 0935268940. Please complete the settings as below. And then press 『Apply』.




Step 2: Set up the digits of internal/external line for FXO Gateway 3. Clicking the『Phone Number Digits』 in the menu,『Dialing Plan』. Set the PBX extension number digits to『3』and the PSTN number digits to『6』. Afterwards, press『Apply』.



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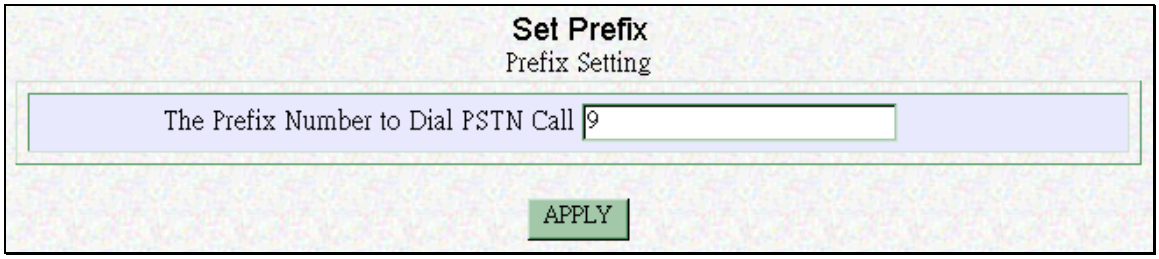
Step 3: Set the Prefix number for external line. Please click the『Prefix Setting』 in the『Dialing Plan』。Set the prefix number to 9. And then 『Apply』.




Step 4: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. Please press『2』for connecting to FXO Gateway 3.

Step 5: FXO Gateway 1 will send the number 2 to the FXO Gateway 2. Due to the digit of 『0935268940』is 10 which is larger than the minimum digits of PSTN number digits , FXO Gateway 3 will take the call to be an external call. FXO Gateway 3 will dial the prefix number『9』first and then dial out the number 0935268940 automatically. The phone with number 0935268940 will ring.

## *2.6 Make an outgoing call on the remote place(Two phase dialing)*

You can make an outgoing call at the remote place as similar as making an outgoing call in local place. 『Two phase dialing』indicates that the dialer doesn't send out the phone number to the remote gateway. The remote Gateway doesn't receive the destination phone number. So it will send the dial tone to the dialer. The dialer can make the destination phone number after hearing the dial tone.

Take the following diagram as example. Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89, FXO Gateway 2 is 10.34.92.90. We use the direct dial number to make an outgoing call. The settings are as below: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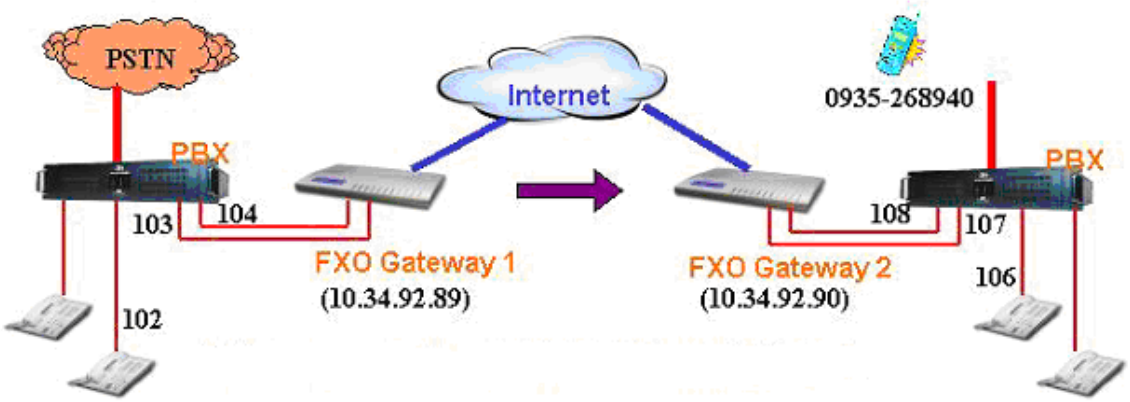
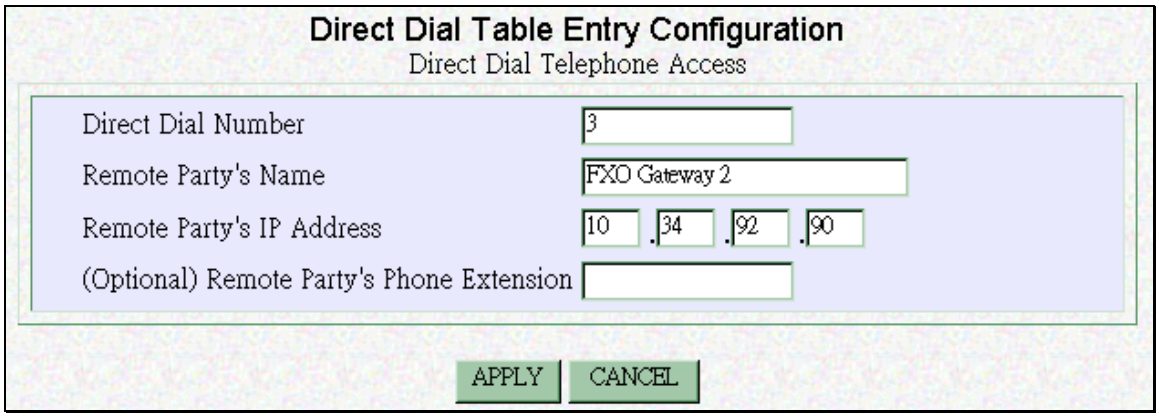



Step1: Clicking the『Direct Dial Table』 of 『Dialing Plan』. Please add the new direct dail number. Suppose the direct dial number for FXO Gateway 2 is『3』without the destination phone number. Please complete the settings as below. And then press 『Apply』.




Step2: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. Please press『3』for connecting to FXO Gateway 2. And then you will hear the dial tone again from FXO Gateway 2. Now, you can make the internal call or outgoing call.

Step3: If you would like to make an internal call, please dail the extension number. If you want to make an outgoing call, please dail the prefix number first for making a PSTN call. And then you can dial the diestination phone number.



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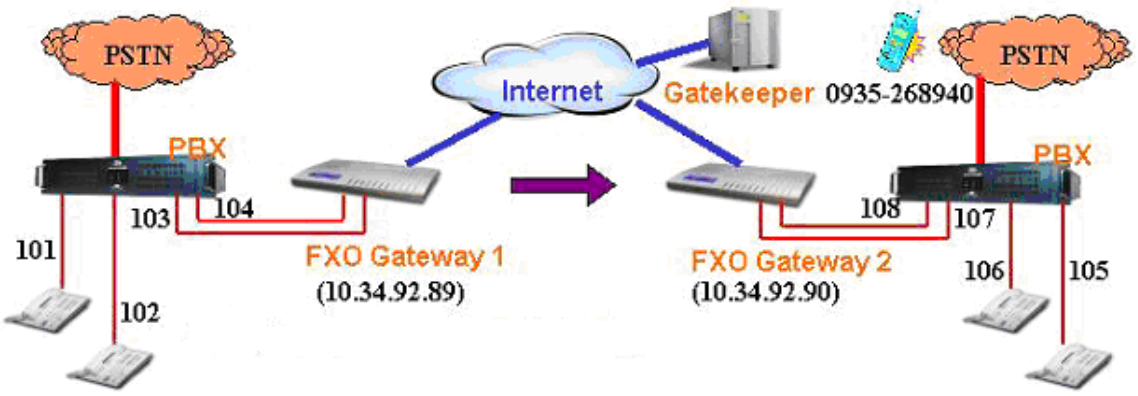
## *2.7 Make a call to the remote place through Gatekeeper(One phase dialing)*

You can make a call to the remote place through Gatekeeper. The diagram is as below. FXO Gateway should register to the Gatekeeper in advance.

Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89 and theFXO Gateway 2 is 10.34.92.90.




Step1: The two Gateways should register to the same Gatekeeper in advance. Please set the routeset for FXO Gateway 2. For the sake of making the FXO Gateway 2 can receive the CDP call and E.164 call, please set the routeset for E.164 and CDP.

CDP Setting：(Take avois Gatekeeper setting for example )

Step1.1: Set the exchangeset with the CDP type for FXO Gateway 1. Suppose the digit of extension number is 3 and the first digit is 1, you can set the『Input Dial Rule』to『1』 and the 『Length』to 3. Please complete the setting based on the following window. After completing the settings, remember to press『OK』.



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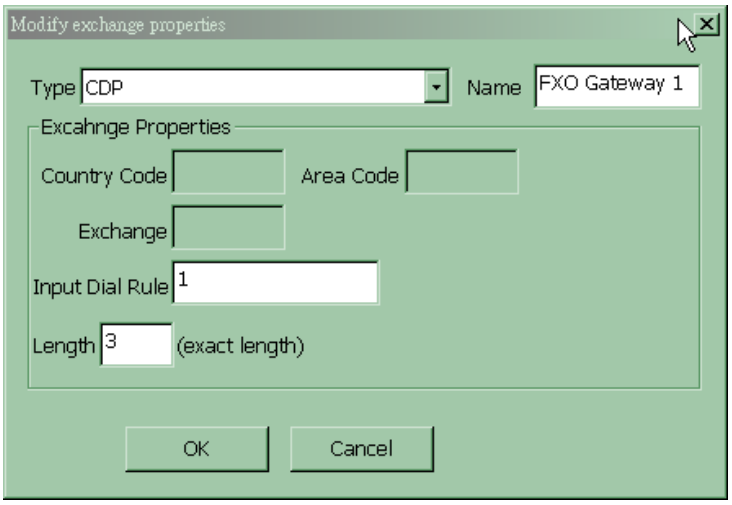
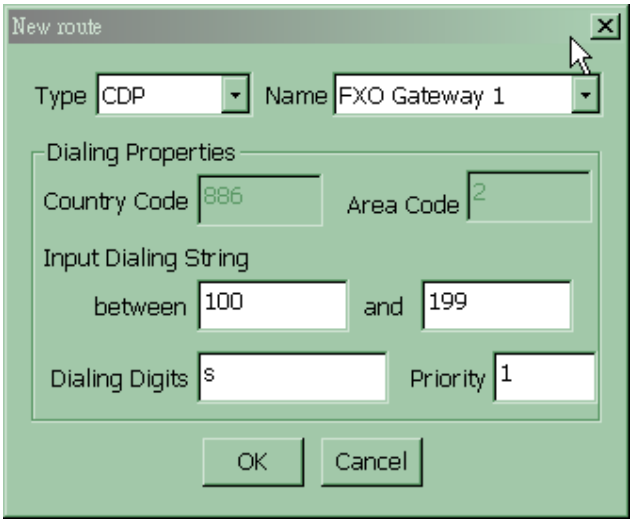



Step1.2: Set the routeset with CDP dialing for FXO Gateway 2. Please choose the corresponding exchangeset-FXO Gateway1 and set the『Input Dialing String』to『100~199』,『Dialing Digits』to『s』。Please remember to press【OK】.




**E.164 Setting:**

Step 1.3: Set the routeset with E.164 type for FXO Gateway 2. Please set the country code, area code and the subscriber nummber range. You can set the 『Subcriber Number』to『0000000000~9999999999』 and the 『Dialing Digits』to『s』. Please remember to press【OK】.



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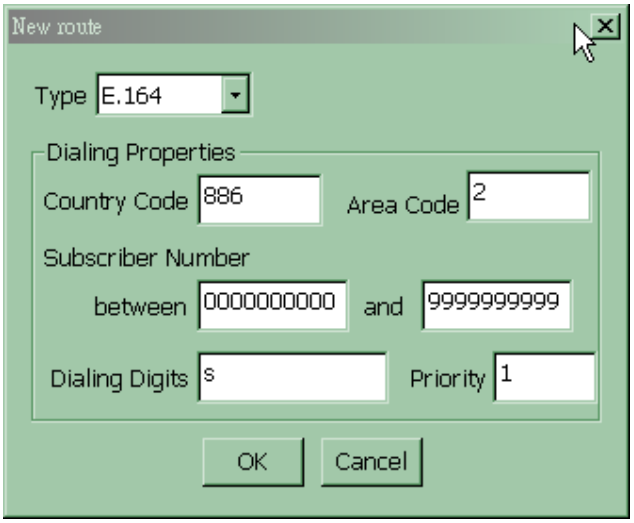
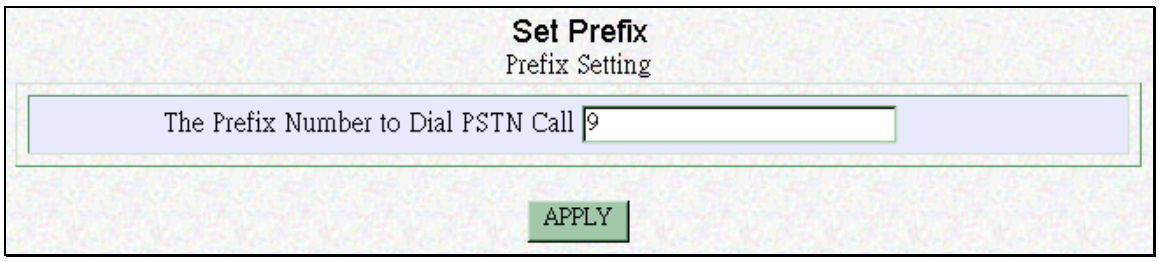



Internal call digits/Outgoing call digits/Prefix setting

Step 2: Set up the digits of internal/external line for FXO Gateway 3. Clicking the『Phone Number Digits』 in the menu,『Dialing Plan』. Set the PBX extension number digits to『3』and the PSTN number digits to『6』. Afterwards, press『Apply』.

Step 3: Set the Prefix number for external line for FXO Gateway 3. Please click the『Prefix Setting』 in the『Dialing Plan』。Set the prefix number to 9. And then press『Apply』.



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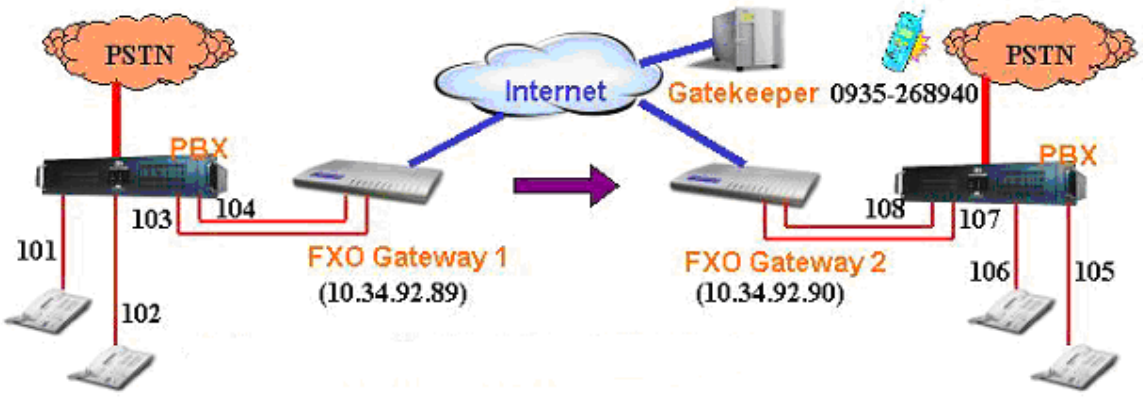
Step 4: You can make a call to the phone with extension number 103. You will hear the dial tone from FXO Gateway 1. Please dail『105』or『0935268940』. Gatekeeper will transfer the call to FXO Gateway 2 with number『105』or『0935268940』. If you dial 105, the phone with extension number 105will ring. If you dial 0935268940, FXO Gateway 2 will take it to be a external call and it will dial the PSTN prefix number 『9』first and then dial the external phone number automatically.

## *2.8 Make a call to the remote place through Gatekeeper(Two phase dialing)*

You can make a call to the remote place through Gatekeeper. The diagram is as below. FXO Gateway should register to the Gatekeeper in advance.

Suppose the extension numbers are showed as below and the IP address of FXO Gateway 1 is 10.34.92.89 and the FXO Gateway 2 is 10.34.92.90.




Step 1: Please follow the steps decribed on section 2.7. After completing the setting as above, please follow the following steps to continue the settings.

CDP setting：(Take avois Gatekeeper's setting as example)

Step1.1: Add the new exchangeset with the CDP type for FXO Gateway 1. Please set the『Input Dial Rule』to『1』and the 『Length』to 2. After completing the settings, remember to press【OK】.



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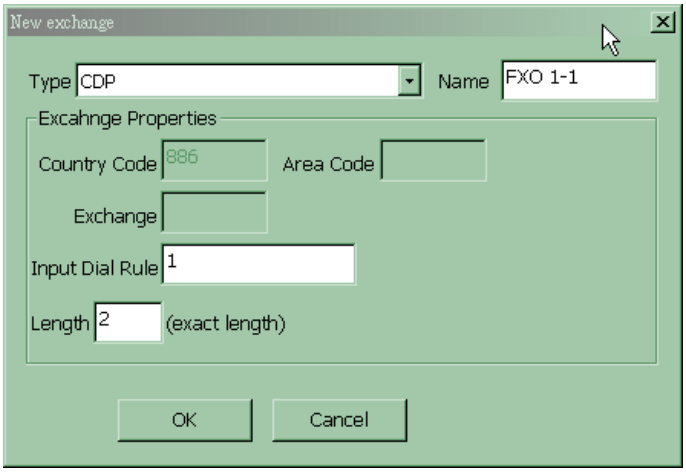
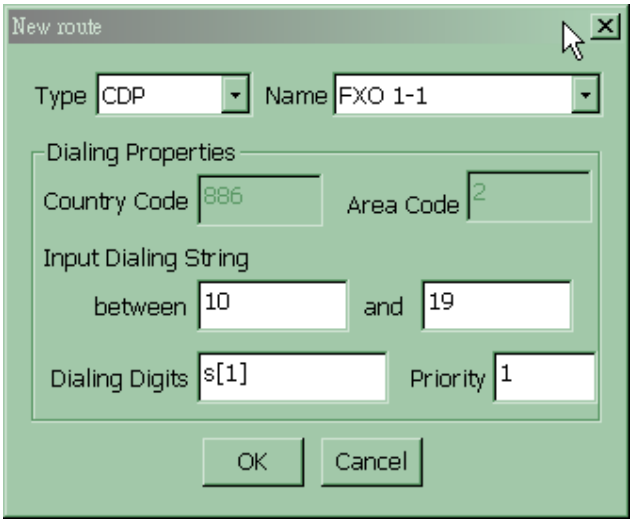



Step1.2: Set the routeset with CDP dialing for FXO Gateway 2. Please choose the corresponding exchangeset-FXO 1-1 and set the『Input Dialing String』to『10~19』, 『Dialing Digits』to『s【1】』. s【1】indicates the FXO Gateway 2 will receive the last digit of the phone nubmer. Please remember to press【OK】.




Step 2: Please choose the『Prefix Rule』in the『Dialing Plan』of FXO Gateway 2. Please choose『Yes』in the 『Remove the prefix of incoming calls』and set the 『The number of digits?』to『0』,『Incoming Prefix』to『9』。



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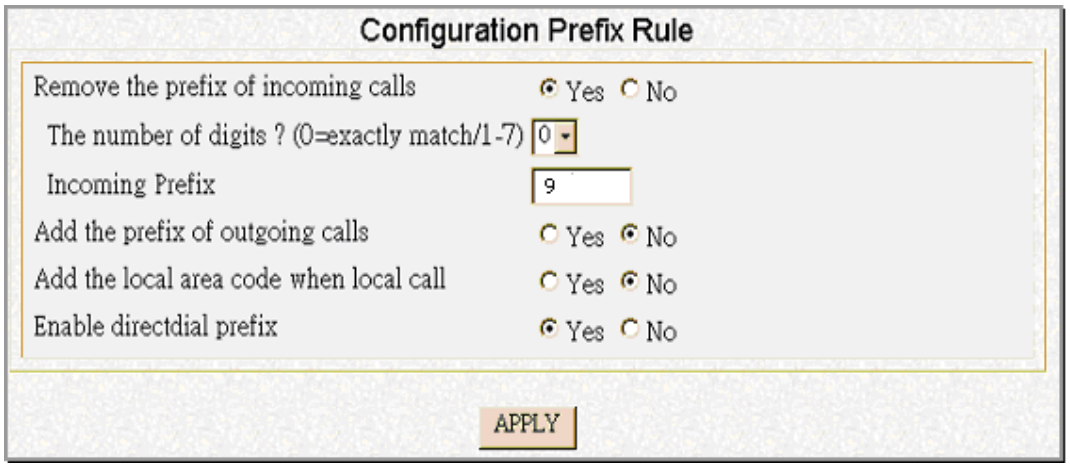


Step3: You can make a call to the phone which extension number is 103 and then you will hear the dial tone from FXO Gateway 1. Please press『19』. Gatekeeper will check the routeset of the FXO Gateway 2 to see if it conforms to the setting, If positive, Gatekeeper will transfer the last digit『9』to the remote Gateway,FXO Gateway2. Due to we set FXO Gateway 2 to remove the prefix number『9』. Therefore, FXO Gateway 2 will receive a null number. For the time being, you will hear a dial tone. You can dial an extension number or outgoing call number based on your choice. If you dial『105』, the phone with extension number 105 will ring and if you dial『9-0935268940』, the cellular phone will ring.



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# *Appendix A ：The Common CLI Commands*

| Command | Example | Explanation |
|---|---|---|
| add profile ewan | add profile ewan | Set up the IP address, IP rounting, and host name of the gateway |
| add directdial number | add directdial number 1001 | Set up the directdial number |
| add speeddial number<1-15 digits> | add speeddial number 6001 | Set up the speeddial number |
| add remote gateway<2 decimal digits 00~99> | add remote gateway 11 | Set up the remote gateway code |
| add accept ip<id number,2 decimal digits 00~99> | add accept ip 10 | Set up the accept IP table |
| clear config | clear config | Clear all the configuration and it will retun to the system's original default |
| change password login | change password login | Chang login password |
| change password voipcall | change password voipcall | Change voip call password |
| change password pstncall | change password pstncall | Chang PSTN call password |
| change password incomingipcall | change password incomingipcall | Changeincoming ip call password |
| download firmware | download firmware | Upgrade the firmware |
| enable accept ip | enable accept ip | Enable accept IP |
| enable dialing restriction | enable dialing restriction | Enable dialing restriction |
| enable greeting | enable greeting | Enable greeting function |
| enable password pstncall | enable password pstncall | Ebable PSTN call password function |
| enable password voipcall | enable password voipcall | Enable VoIP call password function |
| enable password incomingipcall | enable password incomingipcall | Enable incoming ip call password function |
| enable voice port | enable voice port a.1 | Enable voice port function |
| disable accept ip | disable accept ip | Disable accept IP function |
| disable dialing restriction | disable dialing restriction | Disable dialing restriction |
| disable greeting | disable greeting | Disable greeting function |



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| Command | Example | Explanation |
|---|---|---|
| disable password pstncall | disable password pstncall | Disable PSTN call password function |
| disable password voipcall | disable password voipcall | Disable VoIP call password function |
| disable password incomingipcall | disable password incomingipcall | Disable incoming ip call password function |
| disable voice port | disable voice port a.1 | Disable voice port function |
| help | help | List the categorized commands |
| save config | save config | Save the changed configuration |
| ? | ? | Show all commands |
| set ? | set ? | Set commmand |
| set dialing restriction<1~5> | set dialing restriction 1 | Set dialing restriction |
| set tone fastbusy learning | set tone fastbusy learning | Set tone fastbusy learning |
| set tone busy learning | set tone busy learning | Set bust tone learning |
| set tone dial learning | set tone dial learning | Set dial tone learning |
| set tone ringback learning | set tone ringback learning | Set ringback tone learning |
| set prefix | set prefix | Set prefix |
| set phonedigit | set phonedigit | Set the digit number of internal line and outgoing line |
| set date <mm-dd-yy> | set date 8-21-01 | Set date |
| set time <hh：mm：ss> | set time 17：12：34 | Set time |
| set ip default route | set ip default route 10.34.72.1 | Set ip default route |
| set voice port | set voice port a.1 | Set the extension number of the port |
| set voice fxo | set voice fxo | Set fxo function |
| set h323 | set h323 | Set the related configuration of Gatekeeper |
| set gatekeeper | set gatekeeper | Set gatekeeper function |
| set voice parameters | set voice parameters | Set voice parameter |
| set sntp | set sntp | Set sntp server |
| show h323 | show h323 | Show H.323 related information |



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| Command | Example | Explanation |
|---|---|---|
| show dialing restirction | show dialing restirction | Show dialing restriction |
| show gatekeeper | show gatekeeper | Show gatekeeper setting |
| show ip | show ip | Show all configured IP address |
| show config | show config | Show all the configurations |
| show connection | show connection | Show the connection |
| show hunt number | show hunt number | Show hunt number |
| show system | show system | Show system |
| show time | show time | Show time |
| show profile<profile name> | show profile ewan | Show prifile information |

## Advanced Mode

| Command | Example | Explanation |
|---|---|---|
| set h323 | set h323 | Set the prefix, TOS,Faststart, Tunneling and the timout |
| set voice parameters | set voice parameters | Set DTMF RELAY, DTMF power level call progress, Tone power level. |
| set voice port a.x | set voice port a.1 | Set VAD/CNG, Echo cancellation, and Adaptive jitter buffer. |
| add profile <profile name> | add profile ewan | Set IP address and Netmask |


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**D-date：910715_D_2.04**

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